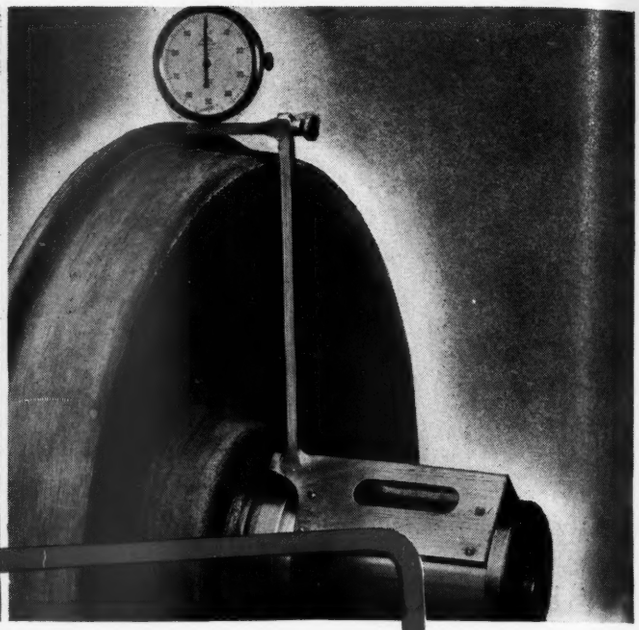
NOVEMBER 14, 1942

Railway Age

Founded in 1856



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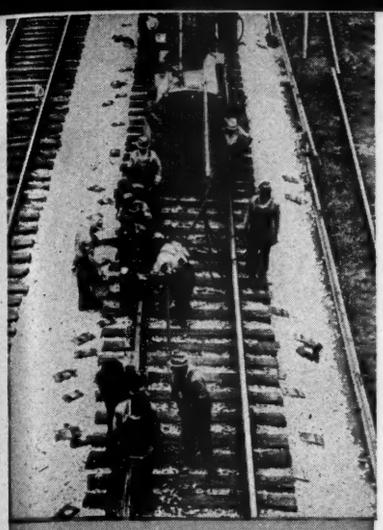

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In This Issue

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C.T.C. Puts More Trains Over An Erie Cut-Off

In spite of increased traffic, the train time has been reduced on a single track-freight line 28.6 miles long

C. T. C. Expedites War Traff the Louisville & Nashvill

Athens, Controls 22 Power Switches and 48 Sem

relieved on 92-mile single-tr
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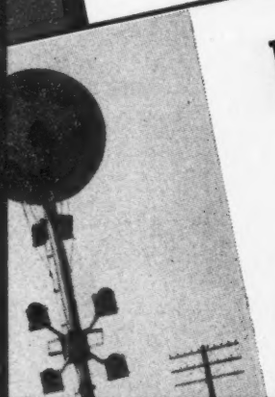
C.T.C. Solves Track Capacity Problem on Seaboard

Installation on 64.5 miles between Richmond, Va., and Cochran replaces time-table and train-order operation

Power switch and signal at a typical end of a siding

Pennsylvania Installs Centralized Traffic Control

On 60.7 Miles of Single



Installation between Cincinnati, Ohio, and Richmond, Ind., improves and expedites train movements with safety on busy single track

"UNION" CENTRALIZED TRAFFIC CONTROL is playing a significant role in the WAR effort. It is providing needed increased track capacity *quickly* with a minimum use of critical materials. It is making possible greater utilization of existing cars and locomotives.

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UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

Stubborn Railways Versus New Dealers

That some parts of the government are sabotaging private management of railways is demonstrable—and whether through ignorance becomes more questionable. The election on November 3 decisively condemned the administration; but on November 5 the President sent to Congress a report on transportation from his National Resources Planning Board which is principally a typical New Deal product, although more socialistic and totalitarian than anything previously emanating from that source. The House has 435 members. There are 102 from "solid South" states in which elections do not indicate public sentiment, but in which sentiment probably is much the same as elsewhere. Of the remaining 333, the Republicans won 208, or 62½ per cent; the New Deal and other parties only 125, or 37½ per cent.

It is a reasonable inference that among the things for which the administration was condemned was its treatment of the railways in spite of the efforts of its own Office of Defense Transportation to get them treated better. Hundreds of news articles and editorials in the press throughout the country within recent months which we have carefully read show that the public has been informed about how much traffic has increased during the present war period; the marvels the railways, aided by shippers, have achieved in handling it; the extent to which, nevertheless, the government has denied them needed new equipment and materials; and the consequent danger of a shortage of transportation. While the railways, although thus handicapped, are still doing a magnificent job, Trust-Buster Thurman Arnold is having them investigated by a grand jury for practices always known to shippers and to the Interstate Commerce Commission, and essential to making the Commission's regulation of railways practicable.

And now comes this Planning Board report based on the assumption that private ownership and management *will* be broken down during the war or post-war period; that a revolution in transportation *should* be made; that the government (with the taxpayers' money) will need to, and *should,* take over direction and financing of all reorganization, rehabilitation and improvement of transportation. The inevitable result would be government ownership—which is expressly advocated by the Planning Board's "principal economist."

This is "playing both ends against the middle" with a vengeance! First break down private management by refusing it enough equipment and materials and attacking it in the courts; then have the government take over because the railways have "broken down" and private management can no longer carry on! "Planning" no doubt considered by the planners to be "neat, but not gaudy"—but perhaps too gaudy in view of the election returns.

Who are these so cock-sure planners of the nation's future transportation? The report emanated from an "Advisory Committee on Transportation" of the Planning Board headed by Owen D. Young, chairman of General Electric; but Mr. Young has expressly said the report is not necessarily endorsed by his committee. We published a summary of it and a list of those who prepared it last week (*Railway Age,* Nov. 7, page 748). Virtually all are "economists" without claim

to knowledge of the real problems of railroad transportation—mostly hand-picked government-employed New Dealers trying to get along by rebuilding America after the Nazi-Fascist totalitarian pattern which we are spending vast resources and the blood of our young manhood to destroy abroad.

We shall later seriously discuss this report if it gets any public support. Meantime, why are the New Dealers especially trying to break down private management of railways? There is reason enough in the fact that the railways during this war period have done more than any other industry to win credit for private enterprise.

The railways "broke down" during the last war. What devilish spirit of pride, initiative, efficiency and patriotism possesses them that they have so long embarrassed the New Dealers by not letting themselves be broken down during this war?

Real Facts on Truck Economy

The Alaska Highway ought to yield some conclusive figures as to the economy of long-distance truck transportation, if the Transportation Study Board can get at the records. Quite likely there is no over-all construction cost figure available, since the work was done so largely by Army Engineers. Probably much of the information would be considered a military secret, anyhow. Nevertheless, if man-hour data have to be estimated, such estimates can be made now, when the number of troops employed is known, much more accurately than several years hence, when memories and records have faded or disappeared. Publication of the findings can wait until hostilities cease.

Economic records on this highway—separating construction and maintenance ton-mileage from "pay" load—would be particularly revealing, because there is no unmeasurable local traffic to detract from the significance of the figures, as is always the case when "comparative economy" studies are made on highways in settled territory.

Here, in short, is a highway which can be made to yield complete and conclusive evidence on the degree of economy attainable by long-distance truck transportation. Its cost is either known, or can be satisfactorily estimated on a commercial basis, by translating soldier man-hours into money at going wage rates and by proper allowance for machinery and materials used. Since most of the traffic is long-haul, and all of the maintenance and construction ton-mileage is under control of the Army, the recording of complete "revenue" and "non-revenue" traffic and vehicle-miles should be a relatively simple job. Particularly significant would be the figures which such records would reveal on the ratio of truck-mileage required to provide fuel—that is, to what degree truck transportation is able to operate on a long-haul basis as a *self-sustaining transportation agency,* providing *net* transportation service over and above its own fueling and maintenance.

The highway does not yet have a permanent surface—but that is all to the good, as far as economic analysis is concerned. Undoubtedly it will be given such a surface in due course. If complete tonnage, fuel and maintenance data are now recorded, comparisons may be made later when a smoother surface is provided, yielding conclusive evidence of the economic value of such improvement in reduced operating and maintenance costs.

Only by study of a highway, the figures on which are not confused by local traffic and a multitude of users from whom there is no practicable way of collecting statistics, will fully-satisfying conclusions on the economy of long-distance truck transportation ever be possible. Only by accumulating these data on a highway which must be self-sustaining as to fuel (not depending largely on barges, pipelines and railroads, as truck operations do in less primitive territory) can conclusive information be secured as to degree of self-sufficiency attainable by this agency of transportation. We hope the authorities will not let slip through their fingers the opportunity to get conclusive answers to these hotly debated questions. And we also hope that the recording of these data, if it is undertaken, will be entrusted to competent hands, unsullied by any suspicion of partisanship.

Bridges in Wartime

In their efforts to insure the integrity of their bridges under present conditions the railroads are confronted with a problem of increasingly serious implications. The outbreak of the war found many roads with certain bridges that are not capable of carrying the heavier power that is needed to permit the handling of war-time traffic with maximum efficiency, and still other structures that are bottlenecks in the sense that large locomotives can be operated over them only at restricted speeds. Moreover, with traffic volume now at record levels, causing more wear and tear of bridges than ever before, the rate of deterioration has increased.

Because of this situation the railroads are facing the necessity, on the one hand, of reinforcing or renewing certain bridges to render them capable of bearing heavier power, and, on the other hand, of carrying out intensified maintenance and renewal programs made necessary by the increased rate of deterioration. But these efforts are seriously handicapped by the difficulty

—frequently the impossibility—of obtaining the necessary materials. These difficulties are typified by the recent experience of a railroad that found it necessary to renew a bridge having a relatively short span. Mindful of the need for conserving critical materials, it developed a design for a concrete structure in which the reinforcing consisted mostly of scrap rails. This design was submitted to the authorities at Washington for their consideration, where approval was withheld on the ground that the scrap rails were needed more urgently elsewhere. Accompanying this decision was the suggestion that a timber structure be installed; but, as timbers in the structural grades required for railroad bridges are now difficult to obtain, this suggestion brought little comfort to the railroad.

As to their bridges, therefore, the railroads are between the upper and nether millstones, the former being the imperative need for maintaining these structures, and the latter being the difficulty of obtaining materials for doing so. To cope with this problem, bridge departments are resorting to various expedients, such as the re-use of spans released from abandoned lines, shortened or otherwise altered as necessary to obtain the desired load-carrying capacity. Another expedient that has been employed to a limited extent, but which seems to have possibilities of wider application where local conditions are favorable to its use, is the practice of replacing bridges with earth embankments and installing waterway openings of non-critical materials, such as mass-concrete arch culverts. In fact, modern methods and equipment have so reduced the cost of grading that this is sometimes the most economical solution. Moreover, rather than requiring the use of critical materials, this expedient, in cases where the existing structure is of steel, will actually release a considerable tonnage of metal.

Obviously, these measures, and others that may be adopted, have limitations. There are sure to be instances in which the problems can be solved only by the use of critical materials, either in the form of new structures or of reinforcement for existing bridges. For this reason no effort should be spared by the railroads to impress upon those in control of materials the serious nature of their bridge problem.

Why Slow Them Down?

The Office of Defense Transportation—or some of its staff—seems to be impressed by the possibilities of improving railway economy and efficiency by lengthening train schedules. This is a question of fact. The only safe generalization about it is that, in view of the recent actual records of railway efficiency, the burden of proof is upon those advocating reduced speeds. Railroad officers are closer to the details of operation than ODT. They are quite as anxious to maximize railroad performance. Therefore, what changes should be made to increase operating efficiency should be allowed to be determined by them. It is a proper function of ODT to raise such questions; but it would be dangerous for it to overrule the judgment of railway officers in deciding them. During the last war government not only told the railways *what* it wanted done, but *how* to do it; and the results were bad. Thus far in this war government has told the railways what it has wanted done, and left to them *how* to do it; and results have been immeasurably better.

It is frequently rumored that ODT is being subjected to pressure by other governmental agencies in behalf of theoretical improvements in transportation. What record of efficiency in comparison with that of the railways have these government agencies made which justifies them in presuming to tell railway officers how better to run the railroads? Their knowledge of transportation apparently is derived from pencil-and-paper computations of national aggregates and averages made by "experts" who do not know actual conditions on any railroad.

Whatever the origin of the agitation for slower train service, the *present* railroad personnel, fixed plant and equipment are geared to present speeds; and it seems most improbable that any wholesale slowing-down can be made without reducing total railroad capacity. Those advocating slower speeds to increase capacity are thinking in terms of a long past period when there were more, slower and less powerful locomotives, and less efficient facilities and methods for utilizing them. Higher average train speeds (achieved as much by curtailing delays as by running faster) are one of the principal factors in the present unprecedentedly intensive utilization of equipment. This is especially true in passenger service, in which eliminating an hour or more from schedules has often permitted equipment to be used for a return run soon after its arrival at a terminal, instead of being held idle for hours. Schedules of trains which, because of changed conditions, cannot maintain them should be lengthened; but there are many passenger runs on which schedules cannot be lengthened much without reducing utilization of equipment by 50 per cent.

ODT does not want this; and it can hardly be believed that this is the objective of the pencil-and-paper "experts" in other government bureaus, although desire in some government bureaus to help private management of railways maintain its record of efficiency seems considerably below par. The railways in the first seven months of 1942 increased their freight performance 37 per cent over 1929 with a reduction of 25 per cent in freight locomotives, and of 19 per cent in freight cars. They are now handling a passenger traffic 40 per cent larger than in 1929 with only about 55 per cent as many locomotives and 67 per cent as many passenger train cars as were then available. Fast train schedules (not necessarily involving high speeds, however) are a principal contributor to the achievement.

Where To Find Good Supervisors and How To Train Them*

The kind of leadership material required to build a good organization is usually found in the ranks—Training programs develop it

F. K. Mitchell, Chairman

BASICALLY, the first element of the problem of supervisory personnel is raised in the question—"What kind of material must be obtained, what qualifications must be present in the candidate for a supervisory position?"

Contrary to the usually accepted premise the first necessary attributes are found in the realm of that almost indefinable qualification called "personality." We hold that above all, in the selection of a candidate for a supervisory position, such a one as will not only be successful in handling a minor job, but as may also be depended on to be equally successful in the discharge of duties through a range of successively more important positions, should be appointed, and that no candidate without personality can be expected to fill that requirement. We shall not attempt fully to define this so-called "personality," but only to give you those components which in our opinion constitute its most important elements. These we have designated in what we believe to be the order of their importance from the point of view of this discussion. They are first, honesty and sincerity; second, the ability of the candidate to get along with his fellowmen; third, appearance; fourth, address; fifth, alertness and enthusiasm; and sixth, initiative.

Background Important

The next group of qualifying attributes in order of importance might be classed under the general heading of "background," or those good indications out of the past that may well point toward the possibility of equally good or better things in the future. Realizing full well that many a fine character has come from a family of ne'er-do-wells, we still feel that the best selection in the long run will be that of one who comes from a good substantial family. Following almost the same line of logic and experience, one with at least some religious conviction might well be chosen. Now, more than ever in the past, we feel that at least a high school education is essential. Further, it is desirable that our future supervisor should have evidenced a keen interest in diverse affairs and even more desirable that he have evidenced some tendency to leadership in one or more fields, be it social, religious, athletic or civic.

The man we are looking for must be valuable over a long period of years, and to be so he must have good health and physical stamina. We expect to invest a great deal in him, and it is logical that if we expect to profit through such investment, he should have those attributes. Since he will be called upon to use his eyes a great deal, it is not too much to demand that they should test at least 20/20 without glasses. He should have no objectionable deformities or any hereditary or communicable diseases and his general health should be good. It might even be well for him to be moderately participant in some athletic activity.

Where Will the Supervisors Come From?

Since the man we are looking for is to serve as a mechanical department supervisor, he should have a natural liking for things mechanical. It is essential that he be fairly good in mathematics, for his every day problems will involve their use. It is also desirable that he be mechanically analytical, and likewise mechanically creative.

Having reached some definite conclusions as to the kind of material we are looking for, it will not be amiss to consider where we are apt to find it. Generally speaking, it is going to come from one of two sources. The first, and most desirable source, from many points of view, is within the ranks of our own organizations. If it can be found there, the esprit de corps of any organization will be benefited. It may come from the ranks of mechanics already employed as such, from among the regular apprentice group, or from the special apprentice group where technically trained men are afforded such special training. If not found at all in these groups, then we must look outside our own organizations, to high schools, trade schools, co-operative schools, colleges and in exceptional cases to outside industries.

The next phase of our problem is the procurement of the kind of material we know we want from the sources available. Here again two distinct problems are presented. First, let us consider the procurement from among our own ranks.

Essentially, adequate personnel records must be main-

* A committee report prepared for the Locomotive Maintenance Officers' Association for inclusion in its 1942 Proceedings.

tained. Often the material we are seeking is buried just under our noses. Adequate personnel records will perpetually turn up the much needed supervisory material which might otherwise become buried in any organization.

Secondary to such records in value to our problem comes the supervisor who knows intimately the men who work for him and their qualifications and possibilities. Such a supervisor can be of untold value in keeping management advised as to the potential supervisors in the ranks. In order to make all supervisors equally valuable, it is suggested that each and every supervisor be required to recommend to his immediate superior at least two men in his gang or department who are qualified to act in his stead or succeed him in event his position becomes vacant through promotion or otherwise. One means of making such selections less difficult is to make the supervisor s job attractive to others. To this end, the establishment of proper rates of pay and spread of rates should be under constant consideration. Another method is to accord the supervisor proper deference and prestige. A third is to design apprentice courses so that every apprentice will be inspired to desire more than a mechanic's job.

"Sell" Your Company to Outside Contacts

The problem of procurement of supervisory material from outside sources has a large element of salesmanship involved in it. Your company must be sold to those agencies from which the procurement can be made and to those candidates brought to your attention by such agencies. This may be done in a number of ways. Apprentice instructors and shop superintendents should keep in close contact with local high school and college personnel officers. Furnish them with information concerning your training courses and chances of advacement. Through them contacts may be made with students having the proper qualifications.

It is suggested that such methods as the encouragement of inspection trips by students of local schools through company shops in order to instill interest might well be productive of favorable results. Through interviews, by properly qualified officers with prospective apprentices while they are yet in school, both parties will benefit. If such interviews are properly conducted—not merely made a quiz—the student will learn better whether he is fitted for the kind of work being offered and the interviewer will have a chance to find out whether the candidate can qualify. Carry the procurement to the candidate, don't wait for him to come to you! In this day and age if you wait, the other company will get the best and you will get what is left. This principle will apply equally as well where the rules require sons of employees to be given preference.

Existing Employees Should be Considered

Some thought should be given here as to how extensive procurement effort should be. The endeavor to locate satisfactory supervisory material among the ranks of your existing employees should, of course, be diligent and unceasing. The effort to secure it from outside sources should be gaged by your success within your own organizations. Procurement from outside sources should only be in numbers necessary to augment the deficiency from within. At all times the proper balance between technical and non-technical graduates should be maintained.

Assuming that we are able to procure from the available sources potential supervisors in required numbers, the next step is, of course, properly to train them for positions of responsibility. This problem logically divides itself into two phases—the development of supervisory ability before and after the initial appointment.

It has been aptly said that "as a twig is bent, so the tree is inclined." The same applies to the development of a supervisor. The initial stages of his service with your company, which usually will be during his apprenticeship, may well be considered as all-important. Hence, too much thought and effort cannot be directed toward developing an apprentice training system which will not only inspire the desire to become supervisors, but also inculcate in the apprentice those traits and ideas which are known to be essential to good supervision.

With that idea in mind we offer the following suggestions: First, that all problems put up to the apprentice both in school and in the shop be related to some phase of shop or railroad activity which he may need to know about in the future. For instance, rather than have him figure the area of a circle 11 in. in diameter let the problem be to find the cross sectional area of an axle bearing 11 in. in diameter; and in the shop, rather than have his first lesson on a shaper be to plane a piece of steel to ½ in. by 5 in. by 8 in., let him make a crosshead liner of the same dimensions, explaining to him where, how and why it is to be used. Provide lectures on shop problems and operations based on the same general idea, avoiding the abstract and emphasizing the practical. Do not restrict his advance nor the nature of his work to the average of all apprentices, but let him advance as rapidly as his capabilities will permit. Subtly, yet continually, keep each reminded of the successes of former apprentice school graduates. Reward fittingly each apprentice for his interest and progress. When he is sufficiently advanced, let him act as an assistant instructor during the school hours and in the shop assign him special work which will cause him to feel that his foreman believes him to be trustworthy.

Apprentice Clubs

No greater help in the creation of supervisory material at this stage can be devised than the apprentice club. Management should sponsor the clubs but the apprentices should be allowed to run them. By observation of how they are managed—who takes the leading parts—valuable information as to the ability as leaders which various boys possess can be obtained. It has been suggested that one logical scheme might be to suggest that the club offices be given names corresponding to railroad positions, and while a boy holds such an office he be sponsored by the shop supervisor having the same title. To maintain interest in club matters at the proper height, and, at the same time, show its appreciation of the activities, management might well sponsor such activities as club trips to other shops, model building, and so forth. Finally, management should give the apprentice club all possible publicity in local, railroad and national publications.

Extra-curricular work for apprentices should be made available. They should be encouraged to take advantage of correspondence courses and night courses offered by schools and universities in the vicinity. After-hour shop forums on vital railroad problems and operations, if wisely conducted, will likewise afford an opportunity for development of address and the ability of the apprentice to express himself clearly before others.

Consultation between the apprentice and his sponsor has been found to be of eminent value. Here both may profit. The apprentice, through this medium, has a

chance to find the answers to problems which are vague to him and the sponsor has an opportunity to learn more and more about the latent abilities in the apprentice and how best they can be developed.

All of the above suggestions may be of little or no avail unless two very important additional things are done. The first of these is to establish, by suggestion and example, that all supervisory appointments are made on the basis of qualification and merit. The second is that an adequate system of reports and records, covering all activities and qualifications of candidates, be maintained so that no error in judgment is likely when the candidates for any position are being weighed.

Often an extended period of time may elapse between the time of an apprentice's graduation and the occurrence of a supervisory vacancy. During this period his interest and desire for a better position must be maintained. He should be encouraged to participate in safety, first aid, social club and other activities. He should be consulted by his immediate superior on any matters pertaining to his gang or department and, where possible, his ideas used and he be given credit for them. As the occasion arises, he should be given an opportunity to fill in on temporary minor supervisory vacancies and an accurate record kept as to how he conducts himself.

Proper Procedure in Making Appointments

The committee does not feel that the question of the actual mechanics of appointment of the supervisor is essentially a part of its problem but would, however, like to suggest that in all cases the original recommendation should come from the candidates' immediate supervisor, if such supervisor is known to be qualified to make the recommendation. Next, that the head of the department in which the appointment is to be made have opportunity to approve and do so only after satisfying himself that the candidate has the necessary qualifications and that his recommendation was made on that basis and under no consideration on the basis of personal friendship, relationship, religion or politics. The officer charged with final approval should not only consider the merit and qualifications of the candidate as reflected by personnel records and what personal knowledge he has of these, and on the basis of impressions obtained by interview, but should consider how the candidate's personality will fit with that of the man to be his immediate superior.

The final consideration, and by no means that of least importance, which we wish to deal with, is the development of the supervisor after his appointment as such.

Our first thought here is really tied up with the actual appointment, and that is the important fact that any supervisor should be appointed only to a job which is within his capabilities of handling. Many a fine prospect has been ruined by failure to consider that too great a step forward may break the spirit of some candidates by imposing more of a load than they are yet ready to carry, and in other cases may cause the candidates to get an exaggerated opinion of themselves. Either situation is highly undesirable.

Guiding New Supervisors

Our next thought is that it should be recognized that he will need help. To this end we urge that he be given a complete understanding of his new duties and responsibilities. This may be done by conference with his new superior, but perhaps can best be done by leaving the man he is to relieve with him a few days so that the one can pass on to the other the benefit of each man he is to supervise. The new supervisor should also be given such literature as is pertinent to his job, such as shop schedules, working agreements, etc.

Our next thought is that the probable route of each supervisor's advancement should be pointed out to him in order that he may have opportunity to prepare himself. Urge that he do so through observation of others and study. Many roads are finding that help in this direction, by making available to all foremanship conferences and refresher courses, is highly beneficial. These are also found beneficial to management because of the opportunity they afford for observation of those who take advantage of them by senior supervisors who are constantly alert to spot such men as merit further advancement.

Make Supervisor Part of Official Family

Here it might be well to offer an admonition against a practice which has often been followed more through shortsightedness and selfishness than for any other reason. It is—don't hold a supervisor, who is qualified for more highly responsible positions, on a job just because he is exceptionally valuable on that job. A diversity of experience will not only keep up his interest, hearten him for greater responsibility, but make him even more valuable as his career advances.

The final thought this committee would like to leave with you is that as soon as a man is made a supervisor, he should be made to feel that he has become a part of the official family. To this end, treat him so that it will be evident to him and to all other employees. See that he is given full information on the company's policies in all matters which he handles. Let him know that he is to be the advisor of his immediate superior. Don't countenance one supervisor going over the head of another in giving orders, seeking advice or in the administration of discipline. Give him a place at your production, routing, safety and other shop activity conferences. Encourage him to express his opinions. Where they are not sound, explain the fallacy in them to him patiently but thoroughly. When they are sound, let him know that they are appreciated and if it is possible to put them into effect see that he is credited with them. Increase his responsibilities as he shows himself able to assume them and let his promotion be in the same proportion.

It is our firm belief that the recommendations heretofore expressed on the selection, procurement and training of supervisors, if followed, will produce an organization which will function smoothly and efficiently, will be amenable to rapid expansion under increased load and at the same time be loyal and understanding in adversity.

The report was submitted by F. K. Mitchell (chairman), assistant general superintendent motive power and rolling stock, New York Central, New York; C. P. Brooks, mechanical engineer, Erie, Cleveland, Ohio; Elmer Butler, assistant production engineer, Missouri Pacific, Little Rock, Ark.; K. Berg, superintendent motive power, Pittsburgh & Lake Erie, McKees Rocks, Pa.; W. W. Haggard, general foreman, locomotive department, Atchison, Topeka & Santa Fe, Topeka, Kan.; W. V. Hinerman, assistant to superintendent motive power, Chesapeake & Ohio, Richmond, Va.; T. B. Roberts, supervisor apprentices, Lehigh Valley, Sayre, Pa.; H. J. Schulthess, chief of personnel, Denver & Rio Grande Western, Denver, Colo.; J. A. Malsi, apprentice instructor, Louisville & Nashville, Louisville, Ky.; A. H. Williams, general supervisor apprentice training, Canadian National, Montreal, Que., and Roy V. Wright, managing editor, *Railway Age*, New York.

Transportation's Job in Wartime

Too little railroad equipment, too late, seen as dooming Nazis—Eastman opposes federal operation—Cargo planes are complementary, not to supplant surface transportation

THE crucial task of domestic transportation (especially the railroads) in furthering the war program was explained to a large audience of New Yorkers —predominantly persons of prominence in many of the city's activities—on Tuesday of this week by Director Eastman of the Office of Defense Transportation. In his remarks Mr. Eastman emphasized the advantages of the highly effective voluntary co-operation now prevailing in transportation, and warned that bringing the railroads under government operation would result in "demoralization," at least temporarily.

The occasion of the address was the annual meeting of the Academy of Political Scence, which was dedicated to discussion of "Transportation in Wartime." Dr. Gustav Stolper, the eminent authority on international economics, discoursed on the Nazi's military transportation problem. Shipbuilder Henry Kaiser explained how he builds ocean ships in a week or ten days. Hanson Baldwin, military correspondent for the New York Times, analyzed the submarine situation. Assistant War Secretary (for Air) Lovett made some striking revelations of the limitations and advantages of cargo planes for the supply of overseas' armies. The Commanding General of the Services of Supply, General Somervell, had a paper on "Logistics" (which embraces transportation). A prominent rubber manufacturer outlined the situation with respect to this strategic transportation material.

General George Marshall, chief of staff, and Admiral Ernest King, Commander-in-Chief of the Fleet, were among other prominent speakers—who did not address themselves particularly to transportation. Lewis W. Douglas, president of the Academy and Deputy Administrator of War Shipping, presided.*

The Military Penalty of Neglecting Railways

That Hitler is now going to run into insuperable difficulties, growing out of his pre-war neglect of the railroads, was the opinion given by Dr. Gustav Stolper, economist and former member of the German Reichstag. Dr. Stolper, now an American citizen, knows Central Europe from long residence there, and his interpretation of present conditions is based on available statistics in the light of his knowledge of the territory; he did not lay claim to special sources of "inside" information.

This speaker cautioned, however, against some particularly "wild" reports about the deterioration of the Nazi railroads which have been circulated in this country —one popular war book now going so far as to report, from sources acceptable to the author, that Germany was down to 3,000 main-line locomotives. The speaker said, that, bad as Hitler's transportation problem must be, it isn't, unfortunately, that bad.

The experience of the German railroads, the speaker went on to say, closely paralleled that of the American carriers following 1929. That is, their traffic declined heavily until 1933 and their supply of equipment was permitted steadily to decrease. New cars and locomotives built were few and other renewals—rail particularly—were subnormal. With preparations for war, however, German railway traffic by 1937 had already recovered to the 1929 level, and in 1938 car shortages had began to occur. All this time, Hitler, who considered himself a "modern" man and hence interested only in highways and airways—not railroads—had done very little to modernize the railways, or even check their deterioration.

Nazi Equipment Program Fell Behind

By 1939—the first year of the war—traffic conditions had become so acute that a "four-year program" of rolling stock construction was begun, calling for a total of 6,000 new locomotives, 10,000 passenger cars and 112,000 freight cars. Indications are, however, that—at least in the first year or two of this program—actual construction may have been only about half what was called for; and that performance did not get up to schedule until 1941. In the meantime, Germany had taken over other countries and, along with them, their railway equipment. But Poland did not have much equipment and, of what there was, comparatively little fell into German hands. Taking over the Austrian railways was more of a liability than an asset. Very little rolling stock could have been removed from Denmark or Norway because the small amount of it on hand was needed to enable the Nazis to exploit the productive resources of those countries. The plunder in the Netherlands was not so rich either. Only in France and Belgium was there much to take away. France appears to have had some 19,000 locomotives (which may be compared with Germany's approximately 30,000), and some 500,000 freight cars. How much of this was taken away is unknown (since some would have to be left to make the country a source of supply for the Nazis)—but, quite likely, the commandeered equipment was a considerable quantity.

A recent dispatch to the New York Times from London, the speaker said, quoted the British Ministry of Economic Warfare as saying that the Nazis planned to build upwards of 6,000 locomotives during the coming year. While it is conceivable that the locomotive-manufacturing capacity of all Europe combined might turn out this number of locomotives, the speaker said that these plants were largely devoted to producing war materials, and they could produce this quantity of locomotives only at a serious loss in their production of war materials.

Whatever the Nazis may have done, however, to re-equip their railways, it can have been relatively little in comparison with the enormously increased load they have taken on. In the Russian campaign, they got no rolling

* Copies of the complete proceedings of the session may be obtained by addressing the Academy of Political Science, Columbia University, New York, at a price of $2.50 for non-members.

stock—but they acquired 15,000 miles of Russian railways, the gage of which they first had to change; and then they had to supply cars and locomotives from the rest of Europe with which to operate these railways. Early in 1942, the German Railroads themselves boasted that "only" 10 per cent of their equipment—which would mean some 60 to 70 thousand freight cars and three or four thousand locomotives—was being used to supply the army in Russia. But, Dr. Stolper went on to say, in the Russian campaign last winter, many cars had to be requisitioned by the army for the housing of troops—since the retreating Russians had not left any housing standing. Furthermore, there are no repair facilities to amount to anything available for the Nazis in Russia, and they have to send their rolling stock back to Germany for even simple shop work.

To supply the German invasion of Russia, the speaker estimates that some 125 trainloads of supplies have to be brought in daily, and that, probably, upwards of 300,000 1½-ton trucks are needed to move these supplies from rail heads to combat zones. As the invasion has penetrated further, the job of keeping the invaders supplied is multiplied; and the speaker suspects that this condition may be the principal factor which has weakened to the vanishing point the drive into the Caucasus.

The Russian campaign is not the only enormous burden a poorly-prepared Nazi railroad system has had to take on. Most north-south heavy traffic in Europe before the war moved by water. Now it has to go all-rail. Accommodating a highly-centralized railroad administration to such a revolutionary shift in the flow of traffic has, doubtless, been difficult; but now the Americans are in North Africa, and this means a further disruption of traffic channels as well as a highly intensified movement from Germany southward. Most of the lines southward have to cross mountains. They have not been built to accommodate heavy traffic since, as heretofore pointed out, in peace time, the really heavy north-south traffic moves almost entirely by water.

On top of all this trouble is Allied bombing. Dr. Stolper said that 40 per cent of Germany's industrial traffic originates in the Rhine-Ruhr district—a highly concentrated target. Different observers choose different critical situations as the principal Nazi weakness. One says it is oil; another, the non-ferrous metals; another, food. These are all critical, but, in this speaker's opinion, transportation is the most acute and dangerous of any of them—and all because Herr Hitler was so "modern," that he spent his energies and the people's substance on developing "modern" and spectacular agencies of transportation, to the neglect of the reliable agency for quantity inland transportation, namely, the railroads.

Air Cargo Function Misunderstood

Many extravagant claims are made for the possibilities of air-cargo transport, the audience was informed by R. S. Lovett, assistant secretary of war for air. Mr. Lovett emphasized his enthusiasm for air transport and his belief in its great future—but, he asserted, the cargo-carrying plane is now primarily useful for "express service, not for freight." Where time is a factor of vital importance, the cargo plane is of the greatest value; and also to reach such places as China where no other form of transportation is available. But the plane just cannot deal with the quantities required for present warfare in a manner to enable it to be an effective substitute for a ship.

To take a hypothetical case, Mr. Lovett said, suppose we wish to convey 100,000 tons of freight a month from San Francisco to Australia. This job can be done by 44 ships, employing 3,200 men in their crews, and burning 165,000 bbl. of fuel oil—furthermore the vessels will make the trip out and back without refueling.

Planes Need Surface Transport for Fuel

To do this same job in cargo planes would require 10,022 planes, with flight crews alone totaling 120,765 men. These planes would require 8,996,614 bbl. of fuel—and 85 tank vessels would have to be assigned to the job of hauling fuel for the planes. The use of planes for such bulk cargo, in other words, would not save ships—it would require a double number, in addition to all the man power, fuel and planes.

All this is not, of course, to say that the cargo plane does not have an indispensable function in the waging of modern war. You cannot have an air line without freight planes to service it with repair parts and supplies. In Rommel's drive on Egypt, badly-needed ammunition was laid down by plane in Egypt in five days from the United States. The plane is not stopped by a shore line, or poor dock and harbor facilities. The army is now flying 16 billion lb.-miles of cargo a month (not including the important African division), and this is only a fraction of the performance expected next year.

The glider has a tactical use, but it offers little or no economy as a freight carrier—because the saving in plane capacity made possible by putting its lading in a glider, has to be added back again to enable the plane to tow the glider.

Large improvements may be expected in the fuel efficiency of planes as time goes on—but right now a ton of fuel has to be hauled in vessels by water for every ton of freight that planes handle; so the cargo plane cannot substitute for the ocean vessel. The army cannot wait for the plane of the future; it has to work with what it has at hand. Present conditions make it inadvisable to neglect any form of transportation, or to be unduly enthusiastic in reliance upon any one of them.

"The fact to which I particularly direct attention is that our domestic transportation system is having to carry the extraordinary load with less facilities than it had at its command when the emergency began," said Mr. Eastman. He then went on to enumerate the losses in transport capacity:

"Because of the necessities of war, there is no longer any commercial transportation by water between our coasts through the Panama Canal, and a great part of our heavy coastwise shipping has also ceased. With the exception of iron ore and oil, we have even lost in our capacity to transport by water on the Great Lakes.

"A further loss is in the capacity to transport by highway automotive vehicle. The brunt of this loss in capacity has fallen upon the railroads. If they could have expanded their facilities freely to meet the new demand, our transportation problems would have been less acute, but the fact has been that the railroads have not been permitted so to expand, and the same has been true of the inland water carriers.

"It was our good fortune that in the prewar days we had what appeared to be a large surplus of transportation facilities; but it was not a surplus in terms of the present colossal productivity of the country, to say nothing of the fact that we now have less facilities than we had then. Yet there has been no breakdown of our domestic transportation system.

"The railroads learned much from their experience in World War I. Then they were taken over and operated as a unit by the federal government. The advan-

These Railways Should Help Our Army

Adapted from the Railway Gazette (London)

Military Commentators Point Out That, If These Railways Are Operated by Our Army, It Will Be Possible to Dock Vessels at Casablanca and Complete Eastward Hauls by Rail—Thus Reducing Shipping Mileage and Avoiding Axis Submarines in the Mediterranean.

Southward from Kenadza (at Bottom of Map and to Left of Middle) the Trans-Saharan Railway Has for Several Years Been Under Construction to Dakar. If This Line Were Completed, Our Army Would Have Another Submarine-Proof Route for Supplies and Reinforcements.

tages of centralized control over freight car movement were demonstrated. Upon the return to private operation, what is now the Car Service Division of the Association of American Railroads was formed to preserve those advantages in large part. To that Division the individual railroads have delegated considerable power to control car distribution and movement in the event of need. The Division was also instrumental at an early date in organizing Regional Shippers Advisory Boards to get the help of the shippers in forecasting traffic demands and in the efficient movement of freight. In 1920, also, the Interstate Commerce Commission was given broad powers over freight service in general and drastic powers in emergencies. It established a Bureau of Service to administer these powers.

Co-operation, Not Coercion

"These aids to centralized supervision of railroad freight service were supplemented, after we entered the war, through the creation by Executive Order of the Office of Defense Transportation. The government did not, as in World War I, take over the railroads or any other carriers. Instead the President created an agency to lend them help and guidance, with war powers enabling it to promote maximum utilization of the facilities available and to prevent waste effort.

"The ruling principle is co-operation. Under this plan, the advantages were retained of the initiative and enterprise in private management, but the individual carriers were enabled to operate more nearly as a single system than would otherwise have been possible.

"The fact is that the rigors of competition between railroads and between them and other forms of transportation have abated considerably and, in my opinion, they will continue to abate progressively for the duration. Under the Car Service Division, freight cars are now pooled for most practical purposes, and much the same is true of passenger coaches and even of locomotives. The troop movements have carried coaches far off the lines of their owners and all over the country. Railroads have joined with each other in supplying the equipment needed for such movements. Roads with a surplus of motive power have loaned locomotives to roads with a deficit. In the movement of oil from the Southwest to the Eastern Seaboard, my Office has taken over the routing of trains and at its request the competitive solicitation of this traffic has been discontinued. We have also been instrumental in arranging a substitution of tank trucks on short hauls for thousands of tank cars, so that the latter could be used for the long-haul movements. These are merely illustrations. Another lesson well learned in the last war was that freight cars are made for movement and not for storage."

Mr. Eastman explained the steps which have been taken to avoid congestion at ports and elsewhere, including the co-operative efforts to this end by shippers, the Army and Navy, the Shipping Administration and the O. D. T. He then explained the measures undertaken to increase the load per car. Continuing he said:

"The railroads have done a splendid job of maintaining their equipment. The percentages of bad-order locomotives and cars have been reduced to record low figures, although the equipment is being driven harder than ever before. Steps are under way, also, to arrange schedules and movements so that the tractive power of the locomotives will be used to the greatest advantage and interference in train movements reduced to a minimum.

Phenomenal Intensity of Equipment Use

"In 1941, ton-miles of revenue freight carried rose above all previous marks, and this was done with about 30 per cent less cars and less tractive power than the railroads had in 1929. This year ton-miles have been averaging nearly 30 per cent in excess of last year. In 1919, the railroads in the Eastern District owned 599,140 freight cars. In June, 1929, the total was 552,486, but in June, 1942, it was only 343,553, or 255,587 less than in 1919 and 208,933 less than in 1929. In the first seven months of 1942, however, these Eastern railroads moved 24.9 per cent more ton-miles than in the corresponding period of 1929 with 37.8 per cent less cars

owned and 35.6 per cent less cars on line. The gross ton-miles per freight train hour increased 42.2 per cent.

"My office has been promoting vigorously diversion of freight to inland and intracoastal waterways. There are opportunities for shifting freight as between railroads and trucks, dependent upon which is the more efficient form of transportation for the service involved. There have been many such shifts in the case of tank cars and tank trucks and in the case of package freight. Other opportunities are under intensive investigation.

"To curb the waste in distribution caused by cross hauling and excessive hauling, my office is now working in close collaboration with the War Production Board and its transportation and industry divisions. Some results have already been secured, but more are in prospect. No system of priorities and preferences in the handling of railroad freight has yet been established, and I earnestly hope that none will be necessary, because of its demoralizing effect on railroad operation."

Mr. Eastman next discussed the difficulties of the passenger transportation problem, and touched on government versus private operation briefly as follows:

"Many of the wastes in transportation which we are now undertaking to eliminate are a by-product of competition. The redeeming thing is that it sharpens the wits and is an incentive to enterprise and initiative. It would seem that in the post-war period one of the objectives should be to strike a proper balance between these opposing phases, so far as transportation is concerned. In other words, the process of integration should be carried as far as it can be carried without losing the benefit of the competitive urge.

"An alternative to the present co-operative arrangement between the government and the carriers, of course, is government ownership and operation. There are some, although they are not particularly vocal at present, who no doubt favor this alternative, at least in the case of the railroads. What post-war conditions may make necessary I do not know. Under present conditions and for the duration, there would be some theoretical advantages in operating the railroads as a unit, a single system. Effective and efficient organization for the administration of such a huge system is, however, no simple undertaking. One of the troubles with the United States Railroad Administration at the time of the last war was that it was obliged to improvise such an organization almost overnight.

"The organization which it created was never satisfactory, either to the shippers or to the railroad operators, and there was the further impediment to good morale that the taking by the government was not on a permanent basis.

No Reason for Federal Operation

"The present co-operative arrangement is, I believe, working well, and certainly it is receiving loyal and whole-hearted support from both the carriers and the shippers of the country. No one could wish for any better co-operation than I have received from both of these sources, and spirit and morale are at very high levels. Moreover, it is possible, through the present arrangement, to realize many of the advantages of unit operation, and the possibilities in this respect have by no means been exhausted. In the circumstances I can see nothing substantial to be gained by changing the arrangement, and I am also sure that if we were to embark upon a program of government acquisition and operation, it would have an immediate demoralizing effect which it would take some considerable period of time to correct, besides introducing many troublesome problems in connection with the acquisition and the compensation therefor which would absorb the attention of many who now have none to spare."

New Technique in Industry's Public Relations

Henry J. Kaiser, the shipbuilder, proved himself an innovator—not only in the shipbuilding business—but in the profession of public relations. His address included a description of the technique by which his company is able to complete ocean vessels in from 7 to 10 days. In essence, the process is one of making an entire ship out of a few dozen large, and entirely complete, sub-assemblies. This job, which is done in 7 to 10 days, is only the *final step* of manufacture—the piecing together of these relatively few sub-assemblies.

Mr. Kaiser showed his public relations ingenuity by making the process concrete to his audience, by having an assistant put together before them a 12-foot scale model of one of the "Liberty" ships, using blocks—each of them representing, to scale, one of the sub-assemblies used in the actual fabrication of one of these ships. The model was put together, one piece at a time, in less than 7 minutes—which made it relatively easy for the audience to comprehend how the real job might be done in 7 days. Mr. Kaiser seems to have something here in a method of simplifying and dramatizing a complex industrial process for the enlightenment of a lay audience.

A similar expedient was utilized by President J. L. Collyer of the B. F. Goodrich Company, who presented a paper on "The Crisis in Rubber." As a part of his talk, he took the liquid components of synthetic rubber from bottles which he had on a table, compounded them, and produced, then and there, a rubber ball.

Hanson W. Baldwin, the New York Times' military correspondent, discussed the submarine menace. He does not believe that this threat can be completely destroyed until the war ends—because the modern undersea craft have such a wide cruising range (12 to 15 thousand miles without the need of refueling or other supplies). Since it is impossible to provide complete protection against these vessels in every part of the globe—improved protection in one area simply causes them to appear elsewhere; they are not forced out of business. The modern U-boats are hard to sink and they are faster than makeshift patrol boats (only specially-designed speed boats afford proper protection). Nevertheless, the rate of ship construction is now running well ahead of U-boat depredations—and bombing the latter's bases and more aggressive forays against them should further reduce their threat to our military transportation.

General Brehon Somervell, commanding Services of Supply, was to have addressed the audience on "Logistics." In his absence, his paper was read by Colonel Karl Detzer. Logistics was defined as "the science of transportation and supply in war"—or getting the right number of men in the right place with the right equipment at the right time. In Africa we have been witnessing the collapse of Rommel's logistics—which were destroyed by air attack on his supply lines. General Somervell observed that "the man on horseback, not the leader of the pack train" is the popular military hero—nevertheless it is the latter that enables the former to do his work. Ten military students can tell you all about the tactics of the battle of Blenheim to one who knows anything about the administrative tasks of such a struggle.

General Somervell's paper went on to tell of the organization of the Service of Supply—and of its enormous work, a job in which the railways are playing a large, vital and effective part.

"Leak-Proof" Accounting Pays

Includes plan for field inventory and check on additions and betterments, procedures for control of shop orders and for centralized general office stationery stocks and records

By E. H. Bunnell
Vice-President, A. A. R.

FROM time to time over the past four years *Railway Age* has published previous articles* of this series wherein the author has undertaken to set forth in non-technical fashion the broad outlines of a complete system of accounting, which has stood the test of practical railroading on the St. Louis-San Francisco where he formerly served as chief accounting officer. It remains to round out the series with this highlight description of additional features of the system.

First of these is the set-up for a field inventory and check of additions and betterments. Capital expenditures and addition and betterment and valuation work are so closely allied that all can be more economically handled if the responsibility is placed upon one department. A property accounting and valuation department, reporting to the auditor of disbursements, in which are maintained all records covering fixed property and rolling stock, make all the reports required in connection with investment accounting and valuation.

Checking Additions and Betterments Charges

To check the correctness of charges to additions and betterments for labor, material, etc., and to determine the proper physical quantities and costs to be added to or retired from the Interstate Commerce Commission's valuation, requires employees with sufficient engineering knowledge to enable them to make a physical check at the location of the project when necessary. They must also have sufficient accounting knowledge to enable them to determine the correctness of all charges to a project, and whether the distribution of expenditures as between operating expense and investment accounts had been accurately made.

The author's experience has proved that it is possible to employ for this work, engineers sufficiently experienced on maintenance and construction work to qualify them for making the valuation and accounting inventories and preparing the engineering records of additions and betterments work. After their employment such engineers are educated with respect to the accounting and valuation principles involved; and under that procedure they have been found well-qualified to handle the work.

The plan contemplates that when notices of completion of additions and betterments projects are received in the office of the auditor of disbursements, detailed statements of charges are prepared. These statements are used by the accounting engineers in connection with their field investigation. On the job they make a physical check of all additions and betterments work performed, determining, by inventory, the quantities of material actually used, and the valuation units required for completion reports.

Any consequential differences between the quantities of material as charged and those as inventoried are noted by the accounting engineers on the detailed statement of charges. These differences are the basis for accounting adjustments made by completion report clerks, also employed in the investment and valuation department of the disbursement auditor's office. The accounting engineer also inserts upon a draft of the completion report valuation units and descriptions of units necessary to comply with Valuation Order No. 3 requirements. The costs are compiled and inserted on the draft of the completion report by the completion report clerk, who arranges for its final publication.

The accounting engineer also prepares any maps and blueprints necessary for valuation records, and furnishes the engineering department with such information as is required by them for correcting their maps and records. In addition, wherever an individual company is to be billed for any part of the cost of additions and betterments work, he checks the collection bill in tentative form and furnishes the information for any corrections necessary to bring the tentative bill into agreement with the contracts and in accord with the actual physical facts.

Without a property (fixed and rolling stock) accounting organization as described herein, the accounting department is unable to make a proper audit of payments made to outside contractors for the performance of maintenance and construction work, but must accept, without question, recommendations and figures of other departments as to payments to be made under the provisions of contracts covering such work. With this organization it has been possible to make a more intelligent check of payments to outside contractors, through having accountant engineers qualified to determine that payments are in accord with the provisions of the contract; and, if thought advisable, check the contract work on the ground, either during its progress or after its completion, to make certain that the physical facts used as the basis for payments have been correctly stated. This additional safeguard with respect to such expenditures is very desirable.

With respect to assessments for public improvements, these are referred to the land and tax commissioner for investigation and approval, insofar as protection of the railway company's interests is concerned. The land and tax commissioner assigns all such assessments to a special representative whose duty it is to check them from every angle. A copy of the ordinance under which the assessment is levied is obtained and studied for the purpose of determining whether the assessment is legally

* Previous articles in the series have been: Controlling Maintenance Outlays, *Railway Age* of December 24, 1938; Keeping the Variables Variable, *Railway Age* of September 2, 1939; Controlling Costs by Supervision, *Railway Age* of July 13, 1940; and Keeping Revenue and Expense Data in Step with Statistics, *Railway Age* of December 28, 1940.

levied; and exceptions, if any, are followed to a conclusion, i.e., the matter is taken up with the taxing authorities in an endeavor to have the assessment cancelled or reduced. Where cancellation or reduction cannot be effected by the tax agent, the matter is referred to the railroad's legal department for handling to a conclusion, suit being filed where such action is appropriate.

All assessments for public improvements must be approved by the special representative of the land and tax commissioner, and they must be finally approved by the commissioner himself before payment.

Accounting for Shop Orders

The system's set-up for shop orders provides that material in the process of manufacture or repair in the company's shops be covered by a duly approved shop order. These orders specify the work to be done, quantity of material to be manufactured or repaired, and the disposition thereof when the order has been completed. A "shop order record" is maintained, and as an individual number is assigned to each shop order, all labor, material, and other charges are accumulated for each order. Then, as the work is completed, the appropriate shop order account is credited and operating expenses or other accounts charged.

Different forms of shop orders are prepared to cover work performed for departments other than the mechanical department, and for individuals and companies. "Store shop orders," for example, are originated by storekeepers; "operating shop orders" by master mechanics or superintendents of shops, upon written request of operating department officers; and individual and company shop orders by the general storekeeper, upon written request of an individual or company.

Labor and material charges in connection with shop order work are distributed initially to individual shop order numbers and included in Account 716—Material and Supplies—Class 34—Material in Process of Manufacture. Mechanical department foremen submit shop order material requisitions for material drawn from either store or mechanical stocks. The shop order number to which the material is chargeable is shown by the foreman in space provided on the requisition. After having been priced and extended by the general storekeeper, requisitions are forwarded to the stores accountant, in whose office material distributions are compiled. Since the amounts shown on each requisition for material obtained from mechanical stock, as well as from store stock, is credited to Account 716 (appropriate class) in material distributions, the value of mechanical stock material used is credited to maintenance of equipment accounts and charged to Account 716 (appropriate class).

In cases of operating, and individual and company shop orders, stores expense is assessed on direct material charges currently. Store expense is not added to charges for material used in connection with shop orders currently, as the finished material remains in store stock until issued, at which time store expense is assessed on cost, including labor and shop expense, of the finished article. The auditor of disbursements in whose office the mechanical timekeeping and labor distributions are handled, reports to the stores accountant labor expenditures for work performed on authority of shop orders, by individual shop order numbers. Shop expenses (overhead) based on percentages furnished by the auditor of disbursements are assessed on direct labor charges currently.

A completion report is submitted by the shop foreman immediately upon completion and delivery to the storekeeper of material manufactured on store shop orders, and manufactured or repaired on individual and company shop orders. Completion of work performed on operating shop orders is reported to the stores accountant by master mechanics and shop superintendents by letter. The cost of material manufactured on store shop orders is transferred from Class 34—Material in Process of Manufacture—to the appropriate class number for the completed article.

Charges to operating shop orders are cleared at the close of each month to operating expense accounts benefited. Upon completion of store shop orders, the unit cost of manufacturing each item is determined. The storekeeper is informed of such costs for use in pricing the articles when issued from stock.

Repaired and Reclaimed Material

Items of standard material which can be repaired and placed in serviceable condition are reclaimed at a reclamation plant. New items of material are also manufactured at this plant from usable second-hand material. Labor, scrap, and new material used in reclaiming old items and in manufacturing new articles are charged to the individual reclamation plant order numbers, Account 716—Material and Supplies—Scrap Reclamation. A proportion of reclamation plant shop expenses (overhead) is added to direct labor charges and a proportion of stores expenses is added for new material based on the current month's percentages.

All reclaimed and newly manufactured material is delivered to the stores department, and credit is given the reclamation plant for the value thereof, based on current market prices. The difference between the value thus determined and the cost of reclaiming or manufacturing is credited to operating expenses on the basis of arbitrary percentages, which are determined from a study made of the actual distribution of the net profit (gross value of material reclaimed and manufactured, less the cost of reclamation and manufacturing) for the preceding year. A detailed record of the cost of reclaiming and manufacturing material is maintained, and comparisons are made with current market prices of similar material.

General Office Stationery Stock

With respect to stationery stock and office materials, the system contemplates that such supplies for all general-office departments will be located in the general office, in the custody of an employee reporting to the accounting department. This central stock is thus readily accessible to all departments, and the stationery and supplies are issued on requisitions approved by authorized parties in each department. Centralization conserves the supplies, reduces the quantity on hand to a minimum and definitely places on one employee the responsibility for having adequate supplies on hand at all times. Only very small working stocks of supplies regularly used are kept in the various departments, thus releasing considerable floor space and storage cabinets which become available for other purposes. Requisitions on the general storekeeper or purchases are made in quantities sufficient to secure better prices in many cases.

Close supervision of central stock by the stock clerk acquainted with quantities disbursed, usage, etc., results in recommendations which are often instrumental in

effecting economies through the use of cheaper grades of paper and substitution of mimeograph, hectograph, multigraph, etc., for printing. Stock subject to deterioration, such as mimeograph stencils, wax sheets, duplicator ink, typewriter ribbons, etc., is ordered in small quantities in order to have fresh stocks available, thus insuring maximum efficiency. Weekly requisitions on the general stationery store permit shipment by freight in large packing cases, reduce handling, letter writing, etc., as is the case when each department in the general office originates its own requisitions on the general stationer for replenishment of separate departmental stationery stocks.

Also, orders may frequently be placed "on consignment" which affords a minimum price on large quantity purchases, leaving the stock with the printer for delivery as required.

Storage and Destruction Records

As to the storage and destruction of files and records, responsibility is placed on one individual with the title of supervisor of records, reporting to the chief accounting officer. A central storage space is provided in the general office building for safe-keeping of all files and records not actively needed by the various departments in the general office in the handling of their current work. When necessary, such files or records can be quickly delivered to the department needing them. The central storeroom thus not only enables the respective departments to keep their floor space requirements to a minimum, but also keeps the space free from old records, which in itself conserves much time and effort.

General storage facilities for the system (other than in general offices) are provided at several central points for the purpose of preserving files and records when removed from the general office storeroom or from division or other offices. All files and records placed in these storerooms are indexed when received, in order that they may be quickly located when needed. A periodical program for removal of old records in division and other offices to the general file room is followed up by the supervisor of records.

Destruction of files and records is handled in accordance with regulations prescribed by the Interstate Commerce Commission. The central file and storage rooms, under the direction of a supervisor of records, greatly facilitates the destruction of files and records as and when authorized by the regulations. The supervisor of records is in a position to see that serviceable containers, binders, boxes, etc., are salvaged and returned to stock for further use, and it has been demonstrated that the value of this salvage, including the sale of waste paper, amounts to a considerable sum which more than pays for the forces engaged in the work. These employees are also utilized to bind for convenient reference recurring reports kept at larger stations, car accounting and other main offices.

Accounting Research Activities

Accounting research activities and personnel work are in direct charge of the general auditor. Research is handled through and supervised primarily by the officer immediately in charge of the department in which new methods are to be developed or experimental work carried on. This procedure enlists the interest and wholehearted cooperation of departmental heads and supervisors in connection with any research work undertaken. When necessary the general auditor makes direct contact with the employees actually handling the work and upon occasion personally directs the research program; however, the department head is always fully informed as to what is being done and renders all possible assistance in expediting the program.

An important factor in progressing research activities is the specific assignment of a portion of the time of one man in the organization of each departmental officer, preferably the chief clerk or other supervisor, to be devoted to the development of constructive ideas or working out improved plans and methods. The cooperation of this individual, either through his immediate superior officer or directly with the general auditor, results in continuous constructive effort being exerted by those directly connected with the work actually performed.

In his capacity as research officer the general auditor is constantly alert to learn of new methods and practices or the use of new or improved mechanical devices by other railroads or industries. In so far as mechanical devices are concerned, the aim is to secure machines best adapted to a particular class of railroad work rather than to make the work conform to the requirements of the particular machines. New mechanical devices are tried out immediately when there is reasonable assurance that any economy or increased efficiency will result from the use thereof. Constant endeavor is made to stimulate study on the part of employees with the view of their submitting recommendations for simplifying or improving the plans or methods of handling the work. This has resulted in many useful suggestions being received and improvements being made in plans and methods in use.

Personnel of the accounting organization is given the most careful attention by the general auditor, and no new employees are engaged until a thorough investigation has been made with respect to education, experience and other qualifications. Promotion of employees is likewise carefully supervised, particularly the filling of so-called "excepted" positions, such as supervisors in charge of sub-departments, department heads, and official positions.

Working Memoranda

Practically every phase of accounting work embraced in the system has been covered by detailed working memoranda or instructions, the object being to adopt the most efficient plan for handling the various classes of work and then provide written instructions which will be sufficiently explicit to insure the original plan being followed until changed by proper authority.

Where a seniority rule is observed in promoting employees to vacant positions, it is frequently necessary to assign an individual to a position without regard to his experience or qualifications needed to efficiently handle the work. Working memoranda have proved particularly valuable in such cases as much verbal instruction is eliminated, and all employees concerned receive instructions in exactly the same form and language. An additional advantage of working memoranda is that they may be referred to at any time whenever any course of procedure is in doubt or may be studied at will by all employees wishing to inform themselves regarding work which may or may not be a part of their particular assignment.

Working memoranda also insure uniformity of accounting documents originating in departments other than accounting, thereby minimizing the work of auditing these documents.

Rock Island Modernizes Stations To Keep in Step With Needs

General View of the Modernized Waiting Room of the Des Moines Station, Showing the Glass Block Panels in the North Wall and the News-Stand in the Northeast Corner

Work on five projects completed in program started in 1940, before war suspended activities—Facilities greatly improved in attractiveness and efficiency

IN 1940, the Chicago, Rock Island & Pacific began a program of modernizing its more important passenger stations to adapt them to the changing traffic requirements and make them comparable with its modern transportation service as exemplified by the streamlined Rocket passenger trains. While this program was suspended at the outbreak of the war, work on one station had been completed and was so far advanced on four others that they were carried to completion during the spring. The larger of these stations are at Des Moines, Iowa, and Little Rock, Ark.; those at Bureau, Ill.; Iowa City, Iowa; and Lincoln, Neb., are smaller but are important from a traffic standpoint.

At Bureau, Iowa City and Lincoln, outmoded mouldings, wainscoting and other wall decorations were removed and flat streamlined wall surfaces of either fibreboard or plaster were installed, new fibreboard ceilings were built and new fluorescent lighting fixtures were installed. The interiors were redecorated with modern, harmonious colors. The exterior faces of the ticket offices were streamlined, the old ticket windows, with their metal bars, were replaced with new theatre-type plate glass ticket windows, and new modern furniture was installed in place of old benches. In addition, glass block windows, new draperies, a new electric clock with a modern face and an open city passenger agent's office, accessible to the public, were installed at Lincoln. At Bureau, stoves were replaced by a modern heating system and new toilet facilities were provided. In addition, the exteriors of all three stations were cleaned or repainted.

Improvements at Little Rock

At Little Rock, the passenger station and the general office building nearby were modernized at the same time. The general office building, originally an old plantation home, an army headquarters during the Civil war, and later a hospital, is a historic landmark. This building was improved without destroying the architectural features that give it its historic aspect. The south two-story portion was torn down, leaving the three-story brick portion for general traffic offices. The exterior brick surfaces of the remainder were sandblasted and tuck-pointed. The decorative trim on the building was renewed in kind, as necessary, and all the trim was painted. A new canopy was built for the main entrance on the north side and the grounds were landscaped. Inside the building, new fibreboard ceilings were built, a new mastic Armo-floor was laid in the outer offices, the entire interior repainted and fluorescent lighting installed.

In the passenger station at Little Rock, heavy mouldings were removed or covered, a new fibreboard ceiling was installed and a new modern luncheonette with counter and stools and a new kitchen were built. New mastic floor coverings were laid in the luncheonette, women's lounge and men's room, and new fluorescent lighting fixtures were installed throughout the station. All old

toilet fixtures were replaced with new modern fixtures. The interior was painted and the brick exterior was washed with acid and the trim painted.

Of the five stations modernized in this program, the Des Moines station is the most outstanding. The changes at this station provide an ultra-modern waiting room with a friendly club-lounge atmosphere and attractively decorated toilet rooms with new and modern fixtures. At the same time other changes were made to provide a more efficient arrangement of various facilities for the convenience of patrons. These latter changes also provided additional office space for the railroad, which was badly needed at this point.

The Des Moines Station

This passenger station was built in 1899 along Classic architectural lines. It is a large substantial two-story brick structure with stone trim and a tile roof. It is about 40 ft. wide and 240 ft. long, and extends parallel to the tracks, on the north side, for nearly the full distance between Fourth and Fifth streets. It has a large high-ceiling, single-story waiting room about 36 ft. by 90 ft., flanked at each end by a two-story section for offices and other station facilities.

Before modernization, the entrance was at the northeast corner behind the ticket offices, which were located at the southeast corner of the station on the ground floor facing the tracks and waiting room. A restaurant was located at the west end on the ground floor and the public toilets were located between the restaurant and the waiting room along each side of a centrally located hallway, connecting the waiting room and restaurant. Offices were located on the second floors at each end of the station.

In modernizing the station, the waiting room, women's lounge and public toilets were completely redecorated and refurnished. The entrance was relocated at the center of the east end of the building and a new streamlined ticket office was built at the center on the track side, extending into the waiting room. In addition, a streamlined luncheonette was built in the northwest corner of the waiting room, and a news-stand of similar design in the northeast corner. These changes permitted use of the space occupied by the old restaurant and ticket office for additional railroad offices.

Probably the most outstanding changes in appearance in the newly decorated station were made in the waiting room, in which the old side walls were of white glazed tile up to the level of the bottom of a high arched ceiling. Just above the white tile walls in the lower part of the ceiling, along each side, were a series of Gothic style windows with decorative rosettes on each side. Overhead lighting fixtures were hung in a row from the center of the ceiling. The room was furnished with an outmoded type of long, wood, double settees, which were placed across the room in a row down the center, leaving an aisle along each side. Old fashioned exposed radiators were located upright in groups at two points in the center of the floor area.

In contrast, the new waiting room presents a quiet club-lounge atmosphere. The old white glazed brick has all been replaced with glass block panels and matched walnut veneer walls with maple trim. In keeping with the maple trim, new double doors of maple were installed in the doorways leading to the tracks and street. Indirect fluorescent lighting is concealed in a cove above a large walnut veneer cornice at the top of the side walls which extends entirely around the room. The old windows in the ceiling were covered with studding and plywood; the rosettes were removed and the entire ceiling was painted ivory.

The old settees have been replaced with comfortable

Right, Above—A View of the Old Waiting Room of the Des Moines Station, from the East End, Showing the Cluttered-Up Aspect Caused by the Old Settees, Exposed Radiation, Etc. Right — A Similar View of the Present Waiting Room. Note the Modern Furniture, the Streamlined Ticket Office on the Left and the Luncheonette in the Background

chairs and sofas. The new furniture has bright colored leather upholstering of shades which harmonize well with the new walls. The furniture is arranged tastefully in groups in the two corners on the track side of the station and along the center of the north wall, leaving an unobstructed center passageway between the new entrance, ticket office, tracks, luncheonette and news counter.

Radiation has been concealed in the side walls below windows and the glass block sections; in addition three unit heaters were installed in the waiting room and one in each of the toilets, those in the waiting room being concealed behind walnut louvres. New composition rugs of a mottled color were placed at the locations where the furniture was grouped. These rugs have large rounded corners to conform to the general streamlined treatment of the remainder of the room.

The large glass panels installed between the pilasters add materially to the modernistic appearance of the room. These panels are of 12-in. by 12-in. glass block, 11 ft. high and 10 ft. wide. Three such panels were placed in the north wall of the waiting room and two in the south wall. In addition, smaller glass block panels were substituted for the windows flanking the doorways to the tracks. On each side of the glass block panels, except at doorways, drapes have been hung. The drapes, lined with linen, are a crash material of plaid design, chocolate brown in color with horizontal and vertical cream and red stripes. The new luncheonette and news-stand have a walnut-faced canopy, and the corner projecting into the waiting room is rounded to add a streamlined and modernistic appearance. The canopy is supported at the outer corner by one steel post encased in walnut.

Ticket Office

The new ticket office is located at the center against the east wall of the waiting room, and is flanked by doors on each side which open to the station platforms and tracks. It too, is streamlined, with large rounded corners, similar to those on the luncheonette and news-stand, and is faced with walnut veneer plywood. A small coping at the top, trimmed with maple, corresponds to the trim on the canopies over the luncheonette and news-stand. Instead of the former metal grilles at the ticket windows, the new ticket window is open, with a small solid wood railing above the counter level, about 15 in. high, over which patrons may talk directly to the ticket clerks. Small doors which swing back are provided at three points in the counter railing and these are opened as required when clerks are at the counter. In the center of the ticket office is a partition which does not extend the full length of the office, and which allows free passage from the counter to the back of the office at either end.

The ticket shelves are mounted on the waiting room side of the partition, and storage compartments, filing drawers, etc., are built in on the other side. The partition effectively screens the work table, typewriter, telephone, etc., in the rear of the ticket office from the view of patrons in the waiting room or at the ticket counter. The entire arrangement is compact and convenient and includes a small wash basin and a built-in clothes closet. Recessed lighting, with light flashed-glass cover plates, is employed above the counters of the luncheonette, news-stand and ticket counter. A large fluorescent light hung from above lights the rear of the ticket office.

The women's rest room, located at the west end of the waiting room on the track side, was formerly entered directly from the waiting room by an open doorway, and the women's toilet was entered from the rest room. The old entrance was closed and a new doorway, affording more privacy, was provided from the center hallway at the west end of the waiting room. The partition between the lounge and the women's toilet was relocated to enlarge the former, and both rooms were completely redecorated and refurnished. In the lounge, new flexboard, painted a rose color, with horizontal chrome-plated metal strips for trim, was applied over the wall surface. This room was furnished with chrome-plated tubular-type furniture, with red and green imitation leather upholstering, consisting of a lounge, a dressing table and six chairs. A large wall mirror was also installed at one end of the room to the right of the door to the women's toilet.

The women's toilet was finished with light grey flexboard walls. New Chinese-red stalls and light citrus-yellow fixtures were installed, and a new maroon tile floor was installed. The ceilings of both the lounge and the women's toilet were faced with beveled panels of a buff colored sound-absorbent insulation board. A small offset wood cornice was installed between the wall and ceiling. Both rooms were lighted with new fluorescent fixtures, and fluorescent lights were also installed on each side of the individual mirrors above each of the three wash basins in the women's toilet room. The women's lounge and toilet room are heated by unit heaters installed near the ceiling.

On the north side of the hall, west of the waiting room, a large smoking room was formerly entered from the waiting room by an open doorway, and a doorway from the smoking room provided entrance to the men's toilet room. In remodeling, the smoking room was converted into two rooms, a men's toilet room and a kitchen for the luncheonette. The new men's toilet room was provided with an entrance directly from the hallway. It was finished with rose-colored flexboard walls, with light green stall partitions and Persian-red toilet fixtures, and the new tile floor is a maroon color. Beveled insulation board was installed on the ceiling and a small unit heater near the ceiling was provided to heat the room. At the west end of the hallway which formerly led to the old restaurant, the doorway was closed and a janitors' closet was provided. This closet contains a sink, the lighting control panel for the station and a time clock for a neon sign at the station entrance. At the west end of the station, the former restaurant and kitchen partitions were removed and the space utilized for a large general office and two private offices. In addition, the space formerly occupied by the men's toilet room was converted into a drafting room and connected to the general office by a doorway. These offices and the offices on the second floor of the station at both ends were repainted and fluorescent lighting installed.

New Entrance

In addition to locating the entrance at the center of the east end of the station, a flat marquee or canopy of modern design, with chrome trim, was built, and a new neon sign was installed on the overhead arch across Fourth street. New maple doors were installed, with a small panel of glass block above. The hall from the doorway to the waiting room was finished in walnut veneer plywood like the waiting room. Harmonizing parcel lockers and telephone booths were built in flush with the wall on the south side of the new entrance hall, and an alcove, with a bench and a red caps' closet, was provided on the other side.

The change in the location of the entrance also necessitated the construction of a new stairway to the offices

on the second floor. This was located in the northeast corner of the station, with a doorway opening into the new entrance hallway. A large unit heater was installed above the new entrance hallway, concealed in the partition at the east end of the waiting room, and directed toward the doorway. Two other unit heaters were installed in recesses on each side of the ticket office in the waiting room to direct blasts of hot air at the door openings to the tracks. These unit heaters were concealed behind louvres made of walnut strips harmonizing with the wall surfaces.

Numerous minor details in finishing the station were made to harmonize with the streamlined club-lounge atmosphere and coloring of the rest of the station. For example, the trash cans and the smoking stands are of a streamlined design, brown in color, with chrome trim. A new electric bubbler-type drinking fountain was installed at the west end of the waiting room and a new electric telechron clock, with a brown face and bronze numerals, was installed opposite the ticket office on the north wall just above the large walnut veneer cornice.

Very little was done to the exterior of the station, which was in good condition, beyond the changes mentioned in connection with the new entrance, except that the outside walls were steam-cleaned and the wood window trim on the offices, doorways, eaves, etc., was repainted. In addition, the under side of the roof and the upper half of the supporting posts of all the track canopies were repainted white. The lower half of the posts were painted a dark green.

Construction Details

All of the work, which extended over a period of time, was done without removing any of the station facilities from service. The large glass block panels between the pilasters on the north wall were installed first. This work was started on the outside and temporary timbers were placed to carry the weight of wall above, after which, the remainder of the wall sections between the pilasters were removed. Steel lintels were placed above the glass block sections and concrete sills were constructed below. About a 1¼-in. recess was provided in the masonry at the sides. Standard expansion joints of fibre glass strips and asphalt emulsion, caulked with caulking putty, were provided at the sides and top of the glass block panels. An enclosure was built inside the station and covered with canvas for this stage of the work. After the glass block panels on the north side were placed, those on the south side were installed. In this case the work at the doorways was relatively easier because steel lintels were already in place.

The ⅜-in. walnut veneer plywood was applied to 2-in. by 2-in. firring strips with finishing nails, the firring strips being nailed to wooden pegs driven into holes drilled in the masonry. The walnut veneer plywood sections for the pilasters were preframed and assembled into mitred and reinforced channel-shaped sections at the local mill. The walnut veneer sheets were ordered separately and were matched and glued to the plywood at the local mill. On the large panels an attractive job was obtained by careful matching of the grain in the walnut vener sheets. A natural finish was secured with shellac, varnishing, rubbing down with steel wool, applying a second coat of varnish and rubbing again with steel wool to eliminate the gloss. The final coat was a satin-finish varnish. This procedure provided a dull, rich finish which shows the beautiful grain of the natural walnut to good advantage.

The new ticket office was made in sections entirely at the mill, which were bolted together and set up in place on the waiting room floor. The new composition rugs in the waiting room were laid on a base felt thoroughly cemented to the marble floor. A chrome edge strip was fastened with expansion bolts. Broken marble in the remainder of the floor was replaced.

Work on the women's lounge and toilet was done before the old facilities were taken out of service. In connection with this work, new plumbing was installed throughout, eliminating a possible source of trouble and maintenance expense for some time to come.

The modernization of the Des Moines station was carried out under the jurisdiction of W. H. Hillis, operating officer, Chicago, and under the supervision of D. A. Ruhl, engineer of buildings, Chicago, and Otto Kuhler, consulting designer, New York. The work was performed under general contract by the Garmer-Stiles Company, Des Moines.

Location Sheet to Reduce Car Detention

By R. C. Munholland*

ANYONE who listens in around a yard office where no car location sheet is kept—and hears the incoming and outgoing telephone and personal calls which result from this lack—needs no argument on the advantages of maintaining such a sheet, rather than depending on calls to many yard and station employees to achieve this purpose through the check of many other yard records. These calls are expensive in man-hours, and they delay car movement (with an adverse effect on per diem charges). Such lack of systematic car information also detracts from maximum utilization of equipment, and gives patrons less prompt service than that to which they are entitled.

The most common cause of failure to locate cars quick-

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How About *Your* Suggestions for Greater Railroad Efficiency?

The author of this article was encouraged to write the editor a memorandum on his own car-economy proposal, by having read in these pages, in our August 29 issue, the suggestion by R. L. Sproul, superintendent car service, Southern, for a systematic plan of freight car numbering.

How about *your* practical ideas for improved railroad efficiency? If they are reported in these pages, they may help the "other fellow" do his job better. And if all the "other fellows" do their jobs better, then the railroads will carry their part of the war load more satisfactorily than if all these lights are hidden under a bushel.

Patriotism, as well as praiseworthy professional zeal, suggests that practical proposals for greater railway efficiency receive publicity where they will meet the eye of men who can put these ideas to work in their jurisdictions, to the Nation's advantage. That is what these pages are for.—*Editor.*

ly, when inquiries are made, is the fact that no daily location sheet is prepared. And nothing exasperates a patron quite so much as inability by carriers to locate promptly a delayed car which has failed in placement when expected. When a shipper or consignee is thus disappointed, he wants to know why right away; and how soon he may expect the car to be placed. He cannot be given this information unless a system is provided which will locate cars immediately.

There is a form of car location sheet used by a very few railroads which shows no other information than simply: Initial and number, kind and track number. This meets the need of answering shippers' simple inquiries as to location, but it does not contain information useful in detecting undue delay and detention. A form of car location sheet is here suggested (Fig. 1) which is calculated to serve both purposes. The information is derived from the routine yard check form (Fig. 2), which should be taken in the early morning, before 7 a. m., if possible.

The location sheet here proposed should show the following information: Initial; number; kind of car; track now on; track carded to; date received, ordered or carded; contents—and should include all cars in the yard, such as cars on hold, team, industries, interchange, storage, and repair tracks. To save time, labor and blanks, only sufficient space should be used on each set of forms to show all cars in the yard by inserting, in large figures, each terminal number thus: 1, followed by all cars ending with 1; 2, followed by numbers ending with 2, and so on. Copies should be furnished, if possible, to station car clerk (switching desk), chief yard clerk, demurrage clerk, general yardmaster and each district yardmaster on each shift, or further as desired.

REPORT SHOWING LOCATION AND DESTINATION OF CARS ON HAND. 10/5 1926

	CAR		KIND	NOW ON TRACK	CARDED TO TRACK	DATE REC'D ORDERED CARDED	CONTENTS
	INIT.	NUMBER					
1				1			
2	SP	27861	Bx	Hold		10/3	Wheat
3				2			
4	AT	92662	Ft	27	134	10/2	Lbr.
5				3			
6	WP	75503	Sk	House	834	10/3	Trap Car
7				4			
8	UP	69514	Tk	L 16	123	10/2	Oil
9				5			
10	IC	519175	Bx	Team	246	10/4	Grain
11				6			
12	NWP	3616	Ft	Hold	152	10/3	Lbr.
13				7			
14	SP	44367	G	M23	132	10/2	Gravel
15				8			
16	WP	1028	Tk	L16	231	10/4	Oil
17				9			
18	AT	16259	Bx	Hold	621	10/3	Furn.
19				0			
20	UP	20510	G	U14	121	10/2	Sand

Fig. 1

P.C.D.D. FORM 28 REV. 1940 200M — SHEET No.

CARS ON HAND Station 7 A. M. 19

1	2	3	4	5	6	7	8	9	10	11
INITIAL	NUMBER	KIND	Inside Length	Cap'y	HOME ROUTE	CONTENTS & QUANTITY Loading, Unloading Empty	Date Rec'd	Days Detained Idg.	Un. Ldg.	Mty

CHECK STARTED ____ A. M. Name of Yard Clerk

CHECK COMPLETED ____ A. M. Agent

Fig. 2

The purpose of supplying the report to all interested parties is to reduce personal or telephone requests, and to enable each desk, department, or yard officer to follow up cars delayed 24 hours or more (such cars may be recorded in red if desired) consigned or ordered to each district, thereby avoiding further delay, additional expense, and complaints from patrons. Immediate action should be taken to move delayed loads thus discovered, by special instructions to general or district yardmasters.

If so desired, a recapitulation may be compiled for the superintendent or general yardmaster, showing number of delayed cars for each track or district. Reports may be filed or bound for each month, properly labeled for future reference.

The proposed location sheet may be enlarged by using separate sheets for each group of car numbers ending in 10's (e.g., 00 to 98 even numbers, 01 to 99—odd numbers), rather than grouping by digits, if such variation is desirable. This sheet would also quickly locate empty cars wanted to fill shippers' orders, enabling them to be supplied from the nearest location to the spot desired, thereby minimizing switching cost and time.

To adopt the symbol letter prefix to car number, to designate kind and dimension of cars, as suggested in *Railway Age*, August 29, 1942, page 337—a column could easily be added on right hand side of forms—in Figs. 1 and 2.

That suggestion by Mr. R. L. Sproul—and the one here described—would, if adopted, produce excellent results in accelerating the turn-around of cars within terminal yards, and would reduce operating expenses. It would likewise improve service to shippers and consignees on cars containing important war material, as well as of commercial freight.

Railroads Slash Their Rubber Uses

Take timely steps to meet shortage — Scan purchases and ban scores of items — Adopt waste-prevention rules

Plenty of Rubber in this Haul

WITH characteristic diligence and effectiveness, the railroads have attacked the problems facing them and the nation as a result of the rubber shortage, and in the process have incidentally thrown light on the wide variety of uses which they have been making of rubber and which they will doubtless again make of it after the war.

For the second time during the current year, a special committee of the Purchases and Stores and Mechanical divisions of the A. A. R. has made an itemized review of all articles of rubber purchased for cars and locomotives and listed the uses for which rubber may no longer be obtained or which should be discontinued, the substitutions which should be made and other steps which can be taken to prolong the life and conserve rubber in use on each railroad.

The report lists more than 250 uses of rubber, without mentioning automobile tires. The list includes 37 kinds of rubber gaskets and hose and 11 kinds of belting which all railroads use in quantities. The report extends to rubber gloves and other items of rubber clothing used to protect men at work; also rubber brushes, bushings, couplings, floor coverings, cushions, valve parts, window fixtures, guards, insulation, mountings, packing, plumbing fixtures, battery parts and wire coverings used by the railroads to seal openings, protect materials from exposure, absorb shock and reduce noise and abrasion, as well as to promote smooth riding of equipment.

As a result of investigations, which took into consideration changes in government restrictions on the use of rubber products and changes in manufacturing practice since this country's principal source of rubber was cut off by the war, only 23 articles made of rubber or containing rubber were earmarked for use without any alteration in existing standards for the time being. This is principally because of safety rules.

Substitutions have been named for 130 articles and a reduction of the rubber, or its partial substitution, has been prescribed in 80 other articles used on locomotives and cars.

Springs, wood, scrap belt, plastic, scrap hose, felt, canvas, putty, metal pipe, paper and reclaimed rubber are among the substitute materials named in the reports. The substitution of fabric fan belts for gasoline engines was decided upon, for example; likewise, the substitution of hair and felt for rubber in seat cushions; linoleum for rubber on coach floors; leather for fire hose gaskets; fibre gaskets for locomotive tank hose; scrap hose for cold water lines; pipe and flexible metallic joints for steam hose; asbestos in place of rubber for piston rod packing and waterproofed fabric for various applications of sheet rubber. The report also indicates that railroads will use less rubber in air brake equipment, car lighting belts and rubber-covered cables; also less rubber in 12 kinds of hose, including air hose.

69 Ways to Save Rubber

The report enumerates 69 ways to save this critical material and conserve the supply, including 3 ways to save axle belting in service, 9 ways of conserving gaskets, 22 ways to prolong the life of hose, 8 ways to save insulated wire cable, 4 ways to save packing, 21 ways to conserve storage battery material and 9 rules for rubber storekeeping.

Every railroad, the report recommended, should appoint one man, or a committee, at each rubber consuming point to study the application to local conditions of the conservation committee's suggestions and recommendations. Rubber conservation should receive special attention in the regular departmental meetings held on railroads, and rubber products should be issued by stores only after ascertaining that old material is unserviceable.

The report of the joint committee on rubber enumerates in one table items which the committee left unchanged; while a second table lists substitute materials;

and a third lists articles susceptible of partial substitution. In this review, the substitutes are listed, while the committee's special recommendations to save rubber by waste prevention practices are as follows:

Waste Prevention Rules

All rubber products, when not in active use, should be stored in a cool, well-ventilated location and should not be exposed to sunlight. Special precautions should be taken to prevent oil and grease from coming in contact with rubber products. Rubber products should be used in the order of their receipt in storerooms. When overhauling devices or equipment containing rubber parts or parts made of rubber, careful consideration should be given to their condition and their return to service rather than to replace them regardless of their condition. Shops, enginehouses, yard buildings and supply boxes should be inspected periodically for excess quantities of packings, gaskets, discs, washers, diaphragms, etc., and the excess returned to store stock. Rubber matting in unnecessary locations should be recovered and made available for essential uses. No rubber scrap of any kind should be burned or otherwise lost. It should be accumulated and sent to one or more central points on the railroad for reclamation and manufacture into gaskets, stripping, mats, stops, bumpers, sleeves, protective coverings or other purposes for which such material might be utilized in place of new rubber parts or parts of which rubber is a component. The practice of burning insulation from wire should be discontinued. All insulated wire returned to scrap docks or reclamation plants should be inspected carefully and the usable portions recovered. Single conductor wire which is beyond reclamation may be stripped of its insulation and the copper and rubber recovered. Substitutes for rubber products should be used wherever practicable.

Saving Hose, Wire and Cable

Reduce the length of hose now in use and return the excess to store stock. Reduce the length of hose to the absolute minimum by additional pipe lines and outlets. Wherever practicable, eliminate hose entirely by the installation of pipe lines and flexible metallic joints for yard heating and charging lines, oil handling installations, boiler washing and filling. Use flexible metallic hose wherever possible in permanent installations where there are no torsional stresses. Prevent injury to hose during the application of fittings by close supervision. Confine the use of each kind of hose to the specific purpose intended. Kinking of hose should be avoided, whether in service or in storage. Prevent injury to hose by trucks and other vehicles by the use of protective planking, overhead hangers or other means and, if necessary, by relocating outlets. Salvage hose by removing any damaged portion and coupling or splicing serviceable lengths. Uncouple air brake and air signal hose before parting cars.

Air brake hose should not be removed from service except as

Railroads are Cautioned to Cease Burning Rubber in Reclaiming Copper Wire

Articles of Rubber or Containing Rubber to be Replaced by Substitute Materials*

Name of Material	Use	Purpose	Substitution
Absorbers, shock	Power ballasters and tampers	Cushioning	Springs
Aprons	Battery and electrical work	Protection	Impregnated fabric
Armrests	Locomotives and motor cars		Hair or moss
Balls, hard rubber	Sand valves		Composition
Bands—Band saw wheels	Shop		Fabric or leather belting
Boiler tube and copper pipe tools	Shop	Cushioning	Coil springs
Belting—Flat, axle light generator	Passenger cars	Hold fabric together	Balata
Frictioned	General		Balata or leather
Belts—Boring machines	Shop	Power	Leather
Fan, flat	Gasoline engines		Fabric
Frictioned, endless, flat	General		Fabric or leather
Block, engine assembly	Diesel and gasoline engines	Shock absorbing	Steel springs
Blocks—Cushioning	Instrument mounting		Scrap belting
Coupler carrier suspension	Passenger cars	Spring action	Spring mounting
Breakers, circuit, hard rubber parts	Electric locomotives		Plastic fibre
Brush, car wash, rubber back	Locomotives, cars, buildings		Wood, reclaimed rubber or old backs
Buffers, safety guard and spring hook	Electric locomotives		Scrap hose or canvas
Buffers and draft gear	Freight cars	Cushioning	Standard gear
Buffers and draft gear	Passenger cars and locomotives	Cushioning	Steel replacement unit
Bumper, vestibule trap door	Passenger cars	Shock absorbers	Felt or scrap belting.
Bumpers	Passenger car doors and furniture. Seats and lids	Cushioning	Leather, built-up canvas, scrap belting or reclaimed rubber
Bushings—Buffer stem	Passenger cars	Sound insulation	Fibre or steel
Compressor, condenser units	Air-conditioned cars	Prevent chafing	Felt or wood
Insulating and non-abrasive	General		Fibre, composition or glass
Lamp socket	Lamp socket switches	Protection and insulation	Fibre or plastic
Safety arm	Cars with spicer drive	Resiliency	Reclaimed rubber or impregnated cotton
Strain relief	General	Protect insulation	Split plastic or wood
Torque arm	Cars with spicer drive	Resiliency	Reclaimed rubber or impregnated cotton
Buttons, snap switch	Electric switches	Insulation	Porcelain, plastic or other
Caps, cord grip	Plugs, attachment caps	Insulation	Plastic
Caps, polarized cord grip	Plugs, attachment caps	Insulation	Plastic
Cement, rubber	General		Eliminate wherever possible
Chutes, hopper	Passenger cars	Sanitation	Metal tube with canvas extension
Coats, rain	Work, wire and wreck trains	Health and safety	Oil skins
Collar, cable insulating	Motor wiring, air conditioning	Prevent chafing	Fibre, plastic or reclaimed rubber
Connection, flexible duct	Air-conditioned cars	Flexibility and moisture	Chemically treated canvas
Control train parts for—			
Receiver coil jackets, continuous	Locomotives	Protection	Impregnated coil, rope covered
Receiver coil jacket, intermittent	Locomotives	Protection	Linen taped, compound impregnated, varnish treated coil
Washers	Locomotives	Cushioning	Reclaimed rubber
Couplings, flexible	Miscellaneous		Leather, impregnated cotton or other
Coverings, vestibule floor	Passenger cars	Wear	Steel safety plate
Cups—Driving	Electric locomotives		Steel springs
Packing	Shop equipment	Seal	Formed leather

*Recommended by the joint A.A.R. committee on rubber June 1, 1942.

Name of Material	Use	Purpose	Substitution
Cushions, seat	Locomotives and passenger cars	Comfort	Springs, hair, moss, felt or cotton
Device, centering	Electric locomotives and passenger cars	Absorb shocks	Wood
Device, centering	Fourteen-wheel tender	Control lateral on rigid wheel base	Steel rocker
Diaphragm, flexible	Locomotives and passenger cars		Canvas, accordion type
Dies, rubber slab	Dies for light shapes at shops		Use other processes
Discs—Generator driving	Truck-axle generators		Solid metal disc
Valve	Miscellaneous		Plastics or metal
Drive, flexible	Electric locomotives	Shock absorbing	Steel springs
Flooring	Passenger cars	Covering and appearance	Carpet, linoleum or wood
Gaskets—Air hose line	Portable air compressors and track tools	Seal	Substitute pipe nipples
Bellmouth	Conduit ends (electric loco. and cars)	Protect insulation	Plastic
Crossing gate pulley box	Crossing gates	Seal	Impregnated vegetable fibre
Fire hose	General	Seal	Leather
Garden hose	General	Seal	Leather
Headlight and marker	Locomotives and cars	Watertight	Impregnated asbestos
Headlight glass	Locomotives and cars	Cushioning and water	Reclaimed rubber
Hose strainer	Locomotive feedwater lines	Seal	Impregnated vegetable fibre
Ice bunker	Refrigerator containers	Seal	Felt or canvas
Ice hatch plug	Refrigerator containers	Seal	Felt or canvas
Marker light lens	Locomotives, cars, switches	Seal	Putty or similar compound
Resilient mounting	General	Resiliency and damping	Scrap belting or felt
Standpipe	Standpipes, water service	Seal	Impregnated vegetable fibre
Tank hose coupling	Steam locomotives	Seal	Fibre, wood
Tank hose coupling nut	Steam locomotives	Seal	Fibre
Tight sealing	Hot and cold water, oil, gasoline	Seal	Impregnated vegetable fibre
Track receiver coil cover	Locomotives	Seal	Impregnated rope, hemp or cotton
Train control equipment box	Locomotives	Seal	Impregnated fabric
Train control, junction box, plug coupler, relay	Locomotives	Seal	Impregnated fabric or vegetable fibre
Glazing strips	Windows, doors, partitions	Cushioning and weather-stripping	Reclaimed rubber, felt or putty
Grommets	Air-conditioned cars	Support for valves	Felt
Grommets	Diesel locomotives	Seal around piping	Felt
Guards, splash	Journal box lubricator	Seal	Felt
Handle, third rail fuse box	Electric locomotives	Rubber sleeve over handle	Fibre
Hats, rain	Work, wire and wreck trains		Oil skins
Hose—Armored	Tire heaters		Pipe and flexible metallic joints
Battery filling	Passenger cars		Scrap hose or impregnated fabric
Cold water	General		Pipe and flexible metallic joints
Equalizing pipe	Electric locomotives and cars	Flexibility	Pipe and flexible metallic joints
Fuel and lubricator	Loading and unloading tanks		Pipe and flexible metallic joints
Oil, auxiliary force lubrication	Locomotives		Flexible metallic tubing
Oil, lines to stoker trough	Locomotives		Eliminate
Pantagraph	Electric locomotives and cars	Insulation	Porcelain tubing
Safety guard spring	Electric locomotives		Scrap hose or other covering
Steam	Locomotives, cars, terminals	Flexibility	Pipe and flexible metallic joints
Tubing for rail wiring	Locomotives		Scrap hose or canvas
Tubing for train control	Locomotives	Protection	Scrap hose or flexible metallic tubing
Valve pilot	Locomotives, steam	Flexibility	Flexible metallic tubing
Insulation, pipe	Locomotives and cars	Heat insulation	Coating of reclaimed rubber
Lamps, extension hand	Shops and electric locomotives	Safety and breakage	Wood or plastic handle or bakelite
Vapor and explosion proof		Safety	Plastic
Lining, sponge rubber	Locomotive switcher fire hose boxes	Prevent abrasion	Carpet or resilient material
Mats, floor	Dining car	Anti-slip	Wood floor racks, wire or composition
Matting—Ribbed or knobbed	General floor covering		Eliminate
Switchboard	Switchboard	Electrical insulation	Slatted wood, oil or wax matting
Mattresses	Passenger and crew cars	Sanitation and comfort	Coil springs with felt padding
Moulding—Core, seat plush	Passenger cars		Paper
Wainscot	Passenger car toilet and lounge rooms	Sanitation and waterproofing	Steel or composition
Mountings—			
Amplifier tube and ballast lamp	Locomotive cab signal equipment	Cushioning	Metal springs
Axle light pulley	Passenger cars	Cushioning	Reclaimed rubber or corrugated steel
Quill	Cars with spicer drive	Resiliency	Reclaimed rubber
Resilient, air conditioning	Passenger cars	Resiliency	Springs or felt
Resilient, blower fan	Air-conditioned cars	Cushioning	Reclaimed rubber or steel springs
Resilient, compressor box	Air-conditioned cars	Cushioning	Steel springs or omit
Resilient, relay supports and misc.		Cushioning	Felt
Resilient, speed control		Cushioning	Steel springs
Torque arm	Cars with spicer drive	Resiliency	Reclaimed rubber
Valve support, clamp, exp. valves	Air-conditioned cars	Cushioning	Felt
Packing—Piston	Power plants, fire-doors		Impregnated asbestos
Rubber, cloth-inserted	Hot and cold water	Seal	Impregnated vegetable fibre
Rubber, solid	Hot and cold water	Seal	Impregnated vegetable fibre
Pads—Body center plate	Passenger cars	Sound insulation	Hard wood or steel
Body side bearing	Passenger cars	Sound insulation	Hard wood, fibre, leather, scrap belting or linoleum
Bolster stay rod	Passenger cars	Cushioning	Steel wear plates or springs
Buffer stay rod	Passenger cars	Cushioning	Coil steel springs
Buffer stem	Passenger cars	Cushioning and sound	Fibre or steel
Carpet	Passenger cars	Protective cushioning	Hairfelt or paper
Coupler centering device	Passenger cars	Sound insulation	Fibre, leather or scrap belting
Foot-pedal	Industrial trucks	Cushioning and non-slip	Non-slip metal
Insulating, roller-bearing	Passenger cars	Insulation	Laminated wood
Meter cushion	Locomotives and motor cars		Scrap belting
Spring clip	Locomotives	Increase spring life	Plastic bound fabric
Spring plank stabilizer	Passenger cars	Cushioning	Reclaimed rubber or coil springs
Suspension	Axle-light generator	Cushioning	Reclaimed rubber, springs or scrap belting
Thermostat	Passenger cars	Cushioning	Springs, plastic, cork or felt
Truck equalizer	Passenger cars	Sound insulation	Fibre, leather, scrap, oak or steel
Truck spring	Passenger cars	Sound insulation	Plywood steel
Sealing strip	Dining car ice boxes	Seal	Reclaimed rubber or felt
Seals, hald round	Cement car doors		Reclaimed rubber.
Seats and lids, toilet	General		Eliminate rubber
Sheet rubber for—Packing and gaskets	Hot and cold water	Seal	Impregnated vegetable fibre
Other purposes	Weather, water, cushioning		Canvas or other waterproofed fabric
Shoe, curtain fixture	Passenger cars	Sound insulation	Plastic, metal or reclaimed rubber
Snubbers, bolster springs	Freight car trucks		Other approved types
Socket, weatherproof lamp	Lamp guards	Insulation	Bakelite
Standpipes, moulded parts	Standpipes		Reclaimed rubber or moulded leather
Stoppers, acid bottle	Fire extinguishers	Seal	Reclaimed rubber or soft wood
Stops	Passengerr doos and hopper seats	Cushioning	Leather, built-up canvas or scrap
Stops, door back	Box cars with steel doors	Cushioning	Backstops without cushions
Stops, hand brake lever	Locomotives and passenger cars		Scrap belting
Support, engine assembly	Diesel and gasoline engines	Shock absorbing and damping	Steel springs
Switches, blowout parts	Electric locomotives		Fibre
Tape, friction	General	Electrical insulation	Reclaimed rubber
Tiling, floor—Cars and washrooms	Passenger cars		Linoleum or composition flooring
Vestibules	Passenger cars		Metal safety plate
Tires, solid rubber	Shops and terminals	Platform, lift trucks	Steel for manually operated trucks
Tops, table and counter	Passenger cars	Cushioning	Linoleum or plastic
Treads, step	Passenger cars	Anti-slip	Perforated metal or subway grating
Valves, water pump	Shops and power plants		Plastic bonded fabric
Washers, door hinge	Passenger cars		Felt
Weatherstripping	Windows, doors, hatches	Weatherproofing	Felt, waterproofed fabric or plastic

required by Interchange Rule 56. Check rolling stock periodically and return all emergency hose to store stock. Hose maintained on the front end of locomotives and on the rear end of cars is sufficient for emergency purposes. The jacket of cotton rubber-lined fire hose for switching locomotives is damaged by abrasion when lying in a steel box. The box should be lined with scrap rubber, carpet or other resilient material. The lining of cotton-jacketed fire hose for switching locomotives should be prepared for hot water rather than cold water.

To increase the life of locomotive fire hose, the cotton jacket should be impregnated with wax and gum or similar treatment to resist moisture. To prevent dragging of hose on floors or ground, reels should be used equipped with flexible metallic joints for making connections readily. All air brake and train air signal hose should be tested before it is dismantled. Fittings should be checked for defects before returning to service. Damaged air brake and train air signal hose can be spliced by cutting off the unserviceable portion and splicing the balance with machine-formed wire clamps. Consideration should be given to another method of reclaiming air brake and train air signal hose by which the damaged portion only is cut off and a special length of nipple is used to make up the difference. The splicing method contemplates salvaging two out of three lengths of hose, while the nipple method would salvage each length of hose damaged at or close to the nipple.

Since the train air signal line normally carries only 45 lb. per sq. in. pressure, a lighter construction and lower quality of hose might be suitable. A machine-formed wire or clinch-type clamp should be used. The ends of tender tank hose can be enlarged one-half inch in diameter to avoid using hose one-half inch larger in diameter throughout its length to compensate for the thickness of the fittings. Since the War Production Board has prohibited the manufacture of two-inch cotton jacket fire hose, which is the present standard on many roads for switching locomotives, one-and-one-half inch hose should be adopted to conserve both rubber and duck as well as to obviate the necessity of enlarging the hose box or reducing the length of hose if two and one-half inch hose were adopted.

Use copper wire of the smallest circular mil area which will carry the required current and thus effect a reduction in both copper and insulation. Use paper or varnished cambric insulation wherever permissible. Substitute synthetic, asbestos or glass insulation for special installations. Reduce the rubber content to the limit of safety, subject to local and national code authorities. Reduce the length of extension cords, welding and battery charging cables and all portable cords and cables to the minimum. Repair portable cords and cables by splicing and vulcanizing. Single conductor cable sizes 4/0 AWG and larger can be returned to a manufacturer for re-insulation. Take special precautions to prevent mechanical injury to cables.

Storage Batteries

Discontinue purchases and change existing orders for monobloc or a similar container assembly of car lighting or air conditioning batteries and use a wood tray and rubber jar assembly, thereby effecting a saving of approximately 60 per cent in crude rubber for containers. Confine purchases of monobloc containers to the reclaimed rubber type and use them only where no substitution is possible.

Reduce the number of sizes of car lighting batteries to four or five. Consider standardizing on 300, 450 and 600 A. H. and the largest wood tray assembly which can be installed in the standard A. A. R. compartment. The latter size may be from 800 to 1,000 A. H. capacity, dependent on the thickness of the plate used by the manufacturers. Standardize on the size and reduce the number of sizes of cable. In selecting cable sizes for connectors, full advantage should be taken to reduce cable sizes and lengths to the minimum, with due consideration to the load to be carried. Reduce the rubber content of connector insulation or use flexible acid-resisting plastic. Discontinue the use of abnormally long inter-tray connectors now used, to permit servicing of batteries without disconnecting them. Give consideration to the use of a connector terminal at the front of trays to permit using absolute minimum lengths of inter-tray connectors. Discontinue the use of rubber-covered inter-cell connectors, insofar as possible. Assign partially-exhausted batteries to duty where the reduced capacity is ample for the service. Discontinue the purchase of complete new batteries, insofar as possible, and rebuild old batteries. Save cable, connectors, containers, jars, etc., for use in repairing batteries. Return old batteries and excess parts to manufacturers for use in rebuilding. Reduce the rubber content of all battery parts. Use wood separators in place of microporous rubber. Use porcelain insulators for the sides and ends of trays in place of rubber. Use porcelain or wood skids on wooden trays in place of rubber. Use other material than rubber for bottom bridge units and height adjusters. Maintain generator regulators in good operating condition and properly adjusted to insure maximum battery life. Care should be taken in charging batteries from yard charging systems to prevent overcharging. Care should be used in flushing batteries.

No more Long Hose or Severe Handling of Rubber

Belts and Gaskets

Keep pulleys in line to prevent chafing of belts. Maintain proper tension to reduce slipping. Avoid renewal of belts by cutting out damaged portions and using connectors. Maintain matched sets of V-belts as recommended by the manufacturers.

See that the flanges are perfectly clean and true and use as thin a gasket as possible. When using compressed asbestos sheet or an impregnated vegetable fibre sheet in place of a solid rubber or cloth-inserted rubber sheet for packing or gaskets, use the asbestos sheet in one-half and vegetable fibre sheet in three-quarters the thickness previously used for the rubber material. Use prefabricated gaskets wherever possible instead of cutting them out of sheets. Use the correct type and shape of gasket for the particular purpose. When gaskets are cut from sheets, lay out to reduce waste. A ring-cut gasket is generally preferable to a full flange gasket. When it is desirable to graphite one or both surfaces of a gasket for easy removal, use a solution of graphite and water. Never use mineral oil for applying graphite as it causes deterioration of gaskets containing rubber. This applies to all types of boiler manhole and handhole gaskets, as well as to gaskets cut from rubber sheet packing. See that the flanges are pulled up evenly and tightly. Alternate from side to side in taking up bolts or studs to insure even pressure all around. Reconditioning rubber or rubber composition air brake gaskets by boiling in water for one hour restores their flexibility and the height of beads. Compressed asbestos sheets may be used more generally in place of rubber for gaskets, etc., in air brake devices. Periodic cleaning dates of air brake devices may be extended considerably and thus reduce the number of gaskets which are damaged or destroyed during the process of overhauling.

Apply plenty of lubrication, such as lubricating oil or grease and graphite, when installing rod packing and thus help the packing to work in. When the necessary number of rings have been installed, take up evenly on the gland with a wrench to assure proper seating of the packing, then slacken and take up only finger tight. It is often advisable to allow the box to leak slightly in the beginning to allow for expansion and proper seating. Packing that is too tight in the box will cause undue friction. Do not attempt to prevent leaks due to scored rods and plungers by applying excessive pressure. True up the rods.

Railroads-in-War News

Oil Movement Peak May Yet Be Topped

Eastman has not lost hope that the present record will be bettered

Director Eastman of the Office of Defense Transportation has not lost hope that the movement of petroleum products to the East-Coast area will be increased "above the present record of about 850,000 barrels per day," he told the American Petroleum Institute at its meeting in Chicago this week. At the same time, the ODT director called the present record "one of the extraordinary things in transportation performance thus far"; and while he found the railroads entitled to the "major part" of the credit, he suggested that there was plenty left for distribution among the petroleum industry, the Office of Petroleum Co-ordinator, and ODT.

Factors favorable to breaking the record were listed by Mr. Eastman as "train-lot movements, which are improving steadily; the present and prospective deliveries in train lots at centralized destinations; and the approaching completion of the 24-inch pipe line to Illinois, which will shorten the rail haul to the East with results equivalent to the adding of about 8,000 cars to the supply."

"The unfavorable factors," he went on, "are the coming winter, which will slow traffic, particularly if the weather is severe; the strain on railroad motive power of increasing war traffic and troop movements; and the condition of the cars. As to the latter, the situation is somewhat like fighting a war with an army made up of many old men, some middle-aged men, and a few young men, all of them in active service on the front line, with no reserves or replacements and inadequate facilities for taking care of the wounded. There have been far too many casualties." Hence, the formation of the ODT-sponsored committee to survey tank-car maintenance facilities and practices, as noted in the *Railway Age* of November 7, page 745.

The ODT director anticipates that the train-lot movement "will be materially enhanced with progressive development, under OPC Order No. 59, of the plan for delivery of such lots at a central storage point from which deliveries to the surrounding territory can be made with trucks or barges, thus permitting the immediate return of the empty cars in like train-lot movements and substantially reducing the round-trip time." And he suggested that "here we have illustrated a most interesting departure, by both the railroad and the petroleum industry, from 'business as usual' and adoption, with government sanction for the purpose of accomplishing results necessary in war times, of practices which in normal times would meet with condemnation under the anti-trust statutes."

It is not generally realized, Mr. Eastman also said, that "there have been thrown into the railroad battle against the oil shortage in the Atlantic seaboard territory, at times as many as 70,000 tank cars out of a total of about 140,000, of which about 120,000 are usable for petroleum movement." Meanwhile, "other transportation forces besides the railroads" have been thrown into the battle. In the latter connection, Mr. Eastman listed the reversing of pipe lines, construction of new pipe lines and pipe line connections, and barge movements on the inland waterways and Great Lakes.

Before getting into his discussion of petroleum transportation, the ODT director had referred to the wartime job the transport agencies, particularly the railroads, have taken on "with less facilities than existed prior to the emergency." And he warned that "there is a limit to the amount of slack which can be taken up and there are obvious dangers, in war time and in view of what lies ahead, in taking too great chances with transportation."

ODT Lets Railroads Run Trains for Telegraph Employees

A blanket permit issued by the Office of Defense Transportation November 10 authorizes railroads to operate special or extra passenger trains whenever necessary for the transportation of commercial telegraph employees assigned to inspect, repair or install telegraph facilities located along a railroad right of way. Under another provision of the permit, cars chartered for such employees may be carried on regular or extra passenger trains.

Price Ceiling on Ties

The Office of Price Administration has amended its maximum price regulation covering railroad ties, thereby affording what the announcement called "a simple and effective manner of setting maximum prices" for ties in cases where a road did not receive similar ties during the first quarter of 1942, the base period.

The amendment (Amendment No. 3 to Maximum Price Regulation 216) authorizes OPA's Lumber Branch to fix the ceiling, and to announce it by telegram where speed is "desirable in the interest of national security." The amendment became effective November 12; and requests for the setting of maximums "must be accompanied by data sufficient to allow OPA to act."

Stress Equipment Needs of Carriers

U. S. Chamber of Commerce Committee makes report on transportation

The Transportation and Communication Department Committee of the Chamber of Commerce of the United States is "urging upon the War Production Board special consideration of the need for a proper balance between production and transportation, in allocating materials for transportation equipment and maintenance, even though this may require materials that would otherwise go into war equipment." This is revealed in a report on "Transport Conservation," recently prepared by the committee and approved by the Chamber's board of directors.

"A fundamental consideration is that transportation is an absolutely necessary element in our war effort," the report asserts. In a statement of war transportation suggestions wherein the report's discussions are briefed, the committee has this to say: "Considerations of allotments for new transportation equipment and maintenance materials should take into account the country's increasing production, the growing demands upon public passenger carriers due to restrictions upon automobiles, the sharp limitations on such allotments which have been in effect during the current year and the time factor in building new equipment. Transportation must be made adequate to meet essential demands."

Recalling that "in World War I the demoralization in transportation was in considerable part due to the system of giving priority to cars containing urgent freight over others already loaded," the committee suggests that this time "any possible need for restricting the volume of transportation should be met through control over the production of goods, already far developed by WPB." This is in accord with the position which has been taken by Director Eastman of the Office of Defense Transportation.

It is understood that copies of the report and suggestions have been submitted to Mr. Eastman, WPB Chariman Donald M. Nelson, and Rubber Director William M. Jeffers. The Chamber's committee includes representatives of various forms of transportation and shippers. Its chairman is Arthur M. Hill, president of the Atlantic Greyhound Lines, while the membership includes the following railroad men: George D. Brooke, president of the Chesapeake & Ohio; Fitzgerald Hall, president of the Nashville, Chattanooga & St. Louis;

and L. O. Head, president of the Railway Express Agency.

The report opens with a prediction that "more stringent conditions may be expected in practically every part of the transportation field during the coming year and probably until the end of the war." Meanwhile, there is ready recognition of the fact that "thus far, despite the increased requirements and the inevitable dislocations due to war, the country's essential domestic transportation needs have on the whole been met in a gratifying manner." Credit for that record is given to "the reserve capacity which previously existed in nearly every branch of transportation," the "fine cooperation of shippers and carriers," and "measures taken by public authorities."

At the same time, the committee anticipates that "even with intensified effort by all concerned," the prospective increases in traffic during the next year will overtax existing facilities. Thus its concern about the equipment situation. The Chamber, the committee points out, has been cooperating in the freight car efficiency campaign which the report says "has rightly been called one of the finest examples of voluntary cooperation on record." Appendices to the report set out the freight car efficiency suggestions sponsored by the National Association of Shippers Advisory Boards, and the Motor Truck Efficiency Suggestions which were issued by Ralph Budd, former transportation commissioner of the Advisory Commission to the Council of National Defense.

With respect to intercity passenger travel, the committee is of the opinion that a priorities system would be "extremely difficult" to administer; and it understands that ODT would consider travel rationing "only as a last resort if voluntary efforts fail to keep demands upon public carriers within manageable limits." The Chamber has already brought to the attention of business firms and organizations "the need for having essential business and vacation travel done as much as possible in midweek and for limiting conventions to those important to the war effort. The report also refers to analyses which indicate that "40 per cent of present intercity travel is nonessential, adding that "business organizations can assist by publicizing these facts and enlisting cooperation of all concerned in reducing unnecessary travel, especially during the peak periods."

Reviewing the manpower situation briefly, the committee found the problem "becoming increasingly acute in practically all branches of transportation." Because "both adequacy of vital transportation services and safety of operation are involved," it urged that the essential facts with respect to manpower be brought to the attention of the public officials handling such problems.

Aside from its general comment and specific railroad sections, the report embodied other sections discussing in turn the situaton as to motor transport, water carriers, and local passenger transport.

General Order ODT 18

Authority has been granted railroads by the Office of Defense Transportation to accept from storage warehouses carload shipments of perishable food products which do not meet the loading requirements of General Order 18, provided that the weight of the load forwarded is at least equal to the weight loaded into the car in which it was received at the warehouse. This order, Special Direction ODT No. 18, Revised-4, applies only to shipments billed from the point of origin before November 1 under storage-in-transit provisions.

An interpretation of General Order 18 by Jack Garrett Scott, ODT general counsel, was issued November 11 to clarify its provisions concerning stop-off privileges for consolidation. A rail carrier, Mr. Scott declared, may permit more than one stop-off for partial loading or unloading of a consignment to be consolidated in a car with one or more other consignments, but the railroad is not required to extend this privilege. The order, he added, prescribes minimum privileges, but does not limit them.

Teacher of Government to Allot Rail Freight Priorities

Dr. William Yandell Elliott, recently appointed director of the Division of Stockpiling and Transportation of the War Production Board, now has before him, according to WPB announcements, the job of setting priorities on freight traffic on domestic railroads. The creation of this WPB division was reported in *Railway Age* of October 24, page 664.

Under the orders by which WPB and the Office of Defense Transportation were set up, authority to establish a system of priorities for commodity movement by the different methods of transportation rests in the WPB, and that authority has been centered under the current plan of organization in the division headed by Dr. Elliott.

Dr. Elliott was born in Murfreesboro, Tenn., May 12, 1896. In 1917 he received an A.B. degree from Vanderbilt University, afterwards serving in the field artillery in the A.E.F., in which he held the rank of first lieutenant. He continued his studies in Paris after the armistice was signed, then returned to Vanderbilt University for a year to take a higher degree, serving as an instructor at the same time. He completed his studies at Oxford University in England, where he received the degree of Doctor of Philosophy from Balliol College in 1923. Since then he has been a college teacher.

Blackstone

W. Y. Elliott

After serving for two years on the staff of the University of California, Dr. Elliott in 1925 was appointed lecturer and tutor in the department of government at Harvard University. One year later he was made assistant professor, and in 1931 he attained the rank of professor in the department. During this time his first book was published, under the title "The Pragmatic Revolt in Politics," and in 1932 a second book appeared, called "The New British Empire."

During the four years 1933 to 1937 Dr. Elliott was chairman of the department of government at Harvard. His first government service was in this period, when he was selected in 1936 to act as a consultant to the President's Committee on Administrative Management. This appointment came shortly after the publication of another book, entitled "The Need for Constitutional Reform."

Dr. Elliott became a public advocate of the importance of government action toward building up national stockpiles of essential raw materials imported from abroad as far back as the Hoover administration, and his views on this subject were reflected in a book published in 1937, "International Control in the Non-Ferrous Metals," of which he was one of the editors. As a result of the work he had done in this field he was called to Washington in 1940 to serve as a consultant on strategic materials to the National Defense Advisory Commission, and in 1941 he was named as consultant in the review section of the Raw Materials Division of the Office of Production Management after that organization took over the activities of the advisory commission.

During this period Dr. Elliott continued to lecture at Harvard, but his teaching activities were curtailed after he was made deputy chief of the Stockpile and Shipping Imports Branch of the Supply Priorities and Allocations Board, which was succeeded by the War Production Board. He later became chief of this WPB branch, and held that position when the branch was consolidated with the WPB Transportation Committee to form the division which he now heads. He also is a member of the combined Raw Materials Board, the combined Shipping Adjustment Board and the Combined Food Board.

In his WPB position Dr. Elliott has the responsibility, according to an official announcement outlining his duties, "for deciding whether or not a commodity should be imported into this country, and in how great quantities. Stockpiles of scarce metals and other products that come from overseas must be built and maintained, and, at the same time, shipping must be provided for as many necessary civilian products as possible. Import priorities, the means through which shipping is con-

trolled, have altered drastically both industrial practice and consumer habits." He not only has decided shipping priority claims for imported commodities, the announcement states, but also has been responsible for "priority directives" on commodities shipped on the Great Lakes and through the return air ferrying and naval transportation commands.

AA-1 Priority for Repairs and Maintenance

The War Production Board's Requirements Committee on November 11 authorized that the top priority rating of AA-1 may be applied to essential repair and maintenance. Included in the scope of the determination, "a basic policy for the first quarter of 1943," are "transportation systems," which are listed among industries to be "assured of materials to keep them performing their essential functions."

Old North Western Locomotive Testing Plant Now Scrap

One of the nation's first locomotive testing plants has been turned in to the scrap drive by the University of Illinois. The plant, built by the Chicago & North Western in 1894, and used at its shops in Chicago, was given to the university in 1910 and was moved to Urbana, Ill. Although never used for actual test purposes at the university, the plant contributed ideas for a plant which the university constructed in 1912.

Army Keeps Short Line Operating During Strike

Because "continued delay in the delivery of vital war materials would have resulted immediately in irreparable damage to equipment in plants engaged in essential war work," the Army on November 7 took over the operation of trains on the 20-mile Fairport, Painesville & Eastern where a strike of maintenance employees had been called the previous day by District 50 of the United Mine Workers. The strike was settled on November 10, when the Army withdrew.

The War Department announcement said that an Army engineers battalion moved in to operate certain locomotives and gondola cars, adding that such "limited operations" would be continued "only so long and only to the extent that they may be necessary" to protect and maintain the equipment in the war plants.

Beyer Suggests Jobs for Women

Before the war is over there will be at least 300,000 women employed in transportation jobs, Otto S. Beyer, director of the Office of Defense Transportation's Division of Transport Personnel predicted this week. Already about 120,000 women are on the payrolls of the transportation industry, and he expects that another 180,000 will be called upon in the near future to take over work ordinarily performed by men.

While these estimates are based on conditions in all transportation industries, including air lines, local transit facilities, and bus and truck services, Mr. Beyer points out that there are many railroad jobs, not all of them in the white collar class, in which women are already employed, and he suggests others for which they are suited, not by "toughness," but by qualities that "command the respect of their fellow workers and the public."

OPA in Rate Cases

Performing its role of Office of Economic Stabilization representative in rate proceedings, the Office of Price Administration is out to confine advances to those "necessary to correct gross inequities or to aid in the effective prosecution of the war." This was made clear last week when David Ginsburg, OPA general counsel, appeared before the Interstate Commerce Commission to oppose the effort of Texas railroads to bring their intrastate rates into line with the Ex Parte 148 adjustment.

Mr. Ginsburg, as an OPA press release put it, "made plain to the I. C. C. that he was discussing principles which would be applicable to all rate cases coming before it." He asserted that it was a matter of "general knowledge" that railroad earnings are now "so generally favorable as to make it extremely unlikely that rate increases would be necessary to insure adequate transportation service," adding that "in considering adjustments in individual rates," the commission should "remember that what might be undue discrimination in normal times was not necessarily undue discrimination when countervailing considerations of national policy are at stake."

"If this stabilization program is to be successful," Mr. Ginsburg went on, "the authority to make upward adjustments must be exercised sparingly and only in those cases where it is clearly necessary to correct inequities or to permit the continuance of essential services. If the program is to be successful, it is also necessary that it be applied as rigorously with respect to transportation and public utility rates as with respect to other prices affecting the cost of living."

In addition to Mr. Ginsburg's appearance at the oral argument in the Texas proceeding, OPA has recently filed with the commission briefs in opposition to several other upward rate revisions which are pending. These have included other intrastate cases arising out of Ex Parte 148 and the proposed modification of the emergency-rate basis on petroleum products shipped to the East-coast area.

* * *

A "Bite" of Steel Scrap

This hoisting magnet speeds sorting and handling at the Lackawanna's Keyser Valley scrap depot at Scranton, Pa.

I. C. C. Service Order Controls Refrigerator Cars

Acting upon Office of Defense Transportation representations "with respect to the necessity for further conservation in the use of refrigerator cars and locomotives," the Interstate Commerce Commission on November 9 issued Service Order No. 95, making Robert B. Hoffman, manager of the Car Service Division's Refrigerator Car Section, the commission's refrigerator car agent with authority "to control the movement of refrigerator cars and to carry out the commission's directions as to refrigerator car service." Mr. Hoffman's headquarters are at Chicago, and his appointment as I. C. C. agent, effective November 9, will continue "until further order of the commission."

He is authorized and directed by the service order "to supervise, coordinate, and direct the distribution of all refrigerator cars according to the needs of the various loading areas and with due regard to economy in their use and mileage." When necessary he "shall direct the distribution of refrigerator cars, without regard to ownership or assignment," to accomplish the following purposes: (1) To accord preference or priority for the transportation of war materials, and commodities requiring special protection from heat or cold; (2) the elimination of unnecessary hauls and reduction in cross-hauling; (3) such reduction as may be necessary or advisable in the use of refrigerator cars for the transportation of canned goods, bottled goods, barreled goods, and other similar commodities in areas where seasonal or weather conditions permit the movement of such commodities without special protection from heat or cold.

Mr. Hoffman is also directed "to make every effort to obtain the short routing of empty refrigerator cars so that the burden of empty mileage will be minimized and, so far as possible, equalized as between railroads." Moreover, he is "to determine and advise the commission of all measures which will reduce the time for loading and unloading of refrigerator cars or increase the efficiency in the utilization, operation, and transportation of refrigerator cars."

The order, in addition, requires Mr. Hoffman to set up, subject to commission approval, and utilize the services of an advisory committee consisting of at least one representative of ODT, the Association of American Railroads, the "railroad industry," railroad-controlled refrigerator car

companies, non-railroad-controlled refrigerator car companies, and shipper-owned refrigerator car companies. Refrigerator cars owned or operated by or leased to any of the military or naval authorities of the United States are exempted from the order.

Eastern Petroleum Movement

Tank car movements of petroleum and petroleum products into the East-Coast area averaged 753,594 barrels a day during the week ended October 31, a decrease of 0.7 per cent under the previous week's daily average of 759,233 barrels, according to Petroleum Coordinator Ickes. Meanwhile, Mr. Ickes, as solid fuels coordinator, also announced that all-rail coal shipments to New England were 1,080 cars above the previous week, being up from 5,557 cars to 6,637 cars; while the approximate coal tonnage was up from 305,635 tons to 343,035 tons.

Commenting on the present trend of the oil movement, Deputy Petroleum Coordinator Davies had this to say: "Last week, 18 refineries in the Mid-West changed their operations to produce less fuel oil and more petroleum coke at the request of the Office of Petroleum Coordinator . . . As a result of this diversion, tank cars that were formerly loaded to the Mid-West had to be shunted to Louisiana and other Gulf Coast points to get their loads of oil. Some 450 tank cars serving one Mid-West refinery alone had to be diverted southward. These cars previously had been moving 12,000 barrels of heavy fuel oil a day, but because of the time required to reach more distant loading points the cars could not be reloaded last week.

"Cold weather in the northern Mid-West was another factor that reduced shipments of oil eastward, causing suppliers to ship greater quantities of fuel oil for use by consumers to those Mid-Western states. At the same time, oil was diverted for the use of a number of railroads whose reserve supplies have been rapidly exhausted by the far-above-normal demands made upon these transportation facilities because of war conditions.

Eastman Asks Government Not To Allow Holiday Leaves

To help relieve the approaching holiday peak traffic on railroads and bus lines, Director Eastman of the Office of Defense Transportation, on November 10 requested all government agencies to cancel annual leave of all civilian employees between December 18 and January 10 where such leaves involve travel, and to limit, where the war effort would not be impaired, the calling of meetings which would involve travel from November 24, through November 30, and from December 18 through January 10.

The text of Mr. Eastman's request follows:

"Due to the approaching holiday peak traffic on public transportation facilities, it is necessary for me to make two requests to ease the load of passenger travel on our inter-city common carriers, and to serve as a warning regarding transportation conditions during the Thanksgiving and Christmas Holidays. These requests are:

"1. That all government agencies cancel all civilian employee annual leaves between December 18 and January 10 where travel would be involved as a result of such leaves.

"2. That all government agencies instruct their personnel to limit, as far as is possible without impairing the war effort, the calling of meetings which would involve travel during the period from November 24 through November 30 and during the period from December 18 through January 10.

"The Army, Navy, Marine Corps, and Coast Guard are co-operating with the carriers by limiting furlough privileges in such a manner that this type of travel will be controlled during this period.

"I shall appreciate your sending me copies of such instruction as you issue to the officers and employees of your agency."

W. W. Judson to Head New WPB Public Services Branch

Appointment of W. W. Judson, general manager of the Northern Pacific, with headquarters at St. Paul, Minn., as chief of the new Public Services Branch of the Program division of WPB was announced

William W. Judson

on November 10 by Ferdinand Eberstadt, vice chairman on program determination. Organization of the branch will be completed shortly, but its broad functions will be to advise the vice chairman on programs involving transportation, communication and other public services.

Mr. Judson was born in Rochelle, Ill., on March 24, 1891, and entered railroad service twenty-one years later in the engineering department of the Spokane, Portland & Seattle at Portland, Ore. Two years later he became a rodman with the Northern Pacific. During the first World War he served in France as a first lieutenant in the Transportation Corps of the Army. For ten years after the Armistice he was assistant engineer of the Northern Pacific, and in 1928 was made special assistant to the vice-president. Mr. Judson was appointed trainmaster in 1929, assistant to the general manager in 1933 and from 1936 to 1940 was superintendent successively of the Yellowstone and Rocky Mountain divisions. He was advanced to general manager, with headquarters at St. Paul, on February 1, 1940. He is on leave from his company and is serving WPB on a $1 a year basis.

WPB Advises on Car Designs and Steel Plates

Making "a further effort to simplify various designs of freight cars for general service," the Transportation Equipment Branch of the War Production Board has requested car builders to restrict to seven designs their production of gondola, hopper and flat cars for general service under Limitation Order L-97-a. The request came in a letter from Branch Chief Andrew Stevenson, who has also recently advised that the steel plate situation has changed to permit removal of the restriction to plates not more than 48 inches in width.

The car designs suggested in the letter to car builders are as follows:

Gondola Cars

Drawing No. 5-1918—50 ton Composite Gondola—41 ft. 6 in. inside length.
Drawing No. 5-1919—50 ton Composite Gondola—41 ft. inside length, 16 steel drop doors, steel fixed ends.
SK-F-5163-C—70 ton Composite Gondola—52 ft. 6 in. inside length, low side and steel drop ends.

Hopper Cars

SK-7-13-42-B-B—50 ton Composite Hopper—33 ft. inside length.
SK-7-13-42-C-B—70 ton Composite Hopper—40 ft. 8 in. inside length.

Flat Cars

Drawing No. 510-F-54-A—50 ton Flat Cars—53 ft. 6 in. length.
Drawing No. 17592—70 ton Flat Cars—53 ft. 6 in. length.

The announcement said that these designs were discussed at a meeting of WPB officials and car builders, adding that "designs for composite type box cars are under consideration and will be announced within the near future."

The statement with respect to steel plates recalls that for the past several months "restrictions have been in effect providing that plate for railroad maintenance and repair, for car construction and for locomotive construction be limited to not more than 48 inches in width except for fire box and boiler steel, for certain tank car construction and for bridges and turntables." It goes on to advise that conditions now permit modification of the restriction to allow use of plates not wider than 72 inches, adding that plates are most readily available "in widths ranging from 36 to 72 inches, inclusive, when they can be ordered in quantities of not less than 10 tons of an item and in carbon steel of structural grade."

Thus it is suggested that "every effort be made to consolidate orders," and attention is called to the fact that in many cases the mills can avoid delay in shipment if authorized to substitute Bessemer for open-hearth steel. The restriction to not over 72 inches does not apply to firebox and boiler steel, steel for high pressure tank cars, or for bridges and turntables.

Slower Train Schedules Will Be Effective by December 6

As a development from study given by the Office of Defense Transportation and the Association of American Railroads to proposals to slow down certain passenger

train schedules, reported in *Railway Age* last week, the ODT announced on November 7 that arrangements have been worked out with Eastern railroads to lengthen schedules wherever such action promises to minimize delays and improve utilization of locomotives and passenger cars.

Under these schedules, which will become effective December 6 or before, it often will be possible to add additional cars to the present regular consist of trains, the announcement points out. This action not only will increase the passenger capacity of the trains affected, but in some cases, it is expected, will enable railroads to withdraw secondary trains that have been operated in support of the fastest schedules to handle intermediate traffic and overflow business that could not be accommodated with the limited equipment that could be moved on the fast schedules.

When the new schedules go into effect the "Twentieth Century" and the "Broadway" will operate on a 17-hour schedule between New York and Chicago, one hour slower than at present, the ODT has announced.

In addition to accomplishing more complete utilization of motive power and cars, and to adjusting advertised schedules more closely to actual performance under current conditions, the planned changes in passenger train schedules are expected to reduce interference with freight operations also, the ODT explains, because both road freight movements and yard activities have been delayed by frequent failures of passenger trains to maintain schedules planned for peacetime traffic conditions.

At the same time it was announced that arrangements have been worked out to eliminate high speed competitive freight schedules, and to load all freight trains moving in the direction of heavy traffic "to the maximum practicable capacity at which the assigned locomotive can operate at reasonable speed."

Manpower Shortage on Western Roads

Manpower shortages on Western railroads this week brought from the Selective Service Headquarters telegrams to its directors in Western states, requesting that they take the situation into consideration and exercise caution in drafting railroaders. The request went out after discussions with the Office of Defense Transportation, in which connection Otto S. Beyer, director of the Division of Transport Personnel, said that ODT is "very apprehensive" about the manpower situation. Making a radio address on the evening of November 11, Mr. Beyer asserted that "transportation workers are directly engaged in war industry"; and that the problem of "keeping sufficient men and women on the job in the face of growing manpower shortages" means, among other things, "allocating men under the selective service act as between the transportation industry and the armed forces, so that each can give their best to the prosecution of the war."

In addition to the action of Selective Service Headquarters, efforts to alleviate the situation on the Western roads have included Car Service Division embargoes on through civilian freight over the Western Pacific. In this connection Embargo No. 92 and its broadening amendment were issued last week.

In his radio talk, Mr. Beyer referred to the current discussion of the importance of three working shifts, and went on to point out that "around-the-clock operations are no stranger to transportation employees." He said that railroad employees "have increased their hours on duty as the demands for manpower have increased"; while "many of them are cooperating with their employers to find ways of doing their jobs with greater efficiency and less waste." But the manpower shortage nevertheless grows, and thus Mr. Beyer called for employment in transportation industries of more women, older workers, handicapped persons wherever they can be utilized, and increasing the employment of Negroes, aliens, and "other minority groups." Also, he called for "a greatly expanded program of training."

The railroad extends from Fairport Harbor, Ohio, to connections with the Baltimore & Ohio at Fairport Harbor and the New York, Chicago & St. Louis at Peny. The road serves the Diamond Alkali Company, the Diamond Magnesium Company and the Industrial Rayon Company.

WPB Industry Branches Get New Duties and Status

Reorganization of War Production Board agencies concerned with determining programs for the distribution of materials and with putting these programs into effect has been under way since the WPB Controlled Materials Plan was announced, and a statement issued November 11 indicates that the personnel and responsibilities of the industry branches of the WPB will be considerably affected by the realignment.

As a step in the reorganization the WPB Office of Operations has been consolidated with the Office of Program Determination under Ferdinand Eberstadt, who continues as vice chairman directing program determination. Ernest Kanzler continues as director general for operations. Under the consolidation the 36 industry branches become industry divisions. They become tied in more closely to the work of the WPB requirements committee, the announcement states, and will be given greater responsibilities for estimating requirements, expanding resources and controlling distribution of materials.

Some of the effects on these divisions—the former industry branches—of the reorganization were outlined in *Railway Age* last week. The character of the new grouping of agencies within the program determination office has now been more specifically outlined. The director of each industry division, the WPB announcement states, will have attached to his staff a labor advisory committee, an industry advisory committee and a sub-requirements committee consisting of representatives of the seven claimant agencies established under the new CMP announced last week.

The industry divisions have been grouped under five operating bureaus—minerals, commodities, consumers goods, construction and utilities, and equipment, each of which is headed by a director. The construction and utilities bureau includes seven industry divisions—plumbing and heating, building materials, lumber and lumber products, power, transportation equipment, communications equipment, and governmental. The director of this bureau is John Hall, on leave from the American Radiator and Standard Sanitary Corporation, Pittsburgh, Pa., where he was vice-president, general sales. He has been in the WPB organization one year, beginning as special assistant to the deputy director of priorities. Recently he has been assistant to WPB Vice-Chairman Knowlson.

The staff of Mr. Eberstadt has been reorganized in preparation for the responsibilities of putting CMP into effect. It will include a Program Bureau, which will collect for the Requirements Committee figures on the supply of materials, requirements for critical items and labor requirements, and a Facilities Bureau which will determine the requirements and programs for construction.

Under Mr. Kanzler a Distribution Bureau, of which J. A. Krug, former manager of power for the Tennessee Valley Authority, is director, will take over the functions of the Bureau of Priorities Control and will administer the distribution of materials through priorities, the PRP and the new CMP. This bureau also will handle complaints and appeals.

The Office of Operations also will include Resources Agencies, which "will handle scrap and salvage programs, simplification and substitution, redistribution of materials and equipment, requisitioning, concentration of industry, stockpiling and transportation, resources protection, and programs for increasing production and better use of manpower resources."

Materials and Prices

Following is a digest of orders and notices of interest to railroads, issued by the War Production Board and the Office of Price Administration since October 30.

Allocation classes—The allocation classification system, requiring that all purchase orders bear designated end-use symbols, is abolished, it was announced on November 7. The copper branch, however, will continue to require such end-use information from brass mills, copper wire mills and copper foundries before making allocations.

Control Materials Plan—A new Controlled Materials Plan to replace the present priorities system, as announced November 2, will become fully operative next July 1, but will gradually become effective in different industries before then as they are ready for it. The critical materials to be controlled under the new plan from the start are aluminum, copper and carbon and alloy steels. Other materials may be added to this list later, but these three are regarded as key materials, the allotment of which will in large measure establish control over all industrial production. Detailed regulations and instructions will be announced later. The CMP program is based on a vertical allotment method of distributing materials, in which seven Claimant Agencies become the distributors of all the available supply of the three critical materials, allot-

ting their shares of the supply to prime contractors producing essential goods, who in turn divide these allotments with their suppliers and sub-contractors. The Claimant Agencies are the Army, Navy, Maritime Commission, the Aircraft Scheduling Unit, Lend-Lease, Board of Economic Warfare and Office of Civilian Supply. The latter office is the claimant agency for all producers not otherwise represented, including producers of railroad materials and equipment.

Laboratories—Order P-135, effective November 5, enables laboratories not holding serial numbers under P-43 to use a rating of AA-2X for chemicals used for analytical, testing, control, educational or research purposes. Laboratories, other than those specifically approved under P-43, may use this rating to buy from supply houses, to purchase from manufacturers and manufacturers to buy raw materials for the production of reagent chemicals. The rating assigned by P-135 may be applied without prior granting of a serial number as under P-43. The AA-2X assigned under P-135 must not be applied to material used in manufacturing operations, other than reagents. Purchases with AA-2X under this order may not exceed in any quarter the buyer's average quarterly purchases in the year ending September 30, 1942. All ratings may be extended in accordance with Priorities Regulation No. 3.

Millwork—A survey of the millwork industry is being undertaken to determine what proportion of existing capacity is being used for direct war requirements and whether the available plant facilities may be utilized more effectually by concentration of war orders in strategically located areas, according to an announcement on October 20. A questionnaire that will be used to obtain the factual data wanted from the industry now is in preparation.

Raw materials—The sixth Material Substitution and Supply List, issued by the Conservation and Substitution Branch of the Conservation Division November 6, contains over 500 materials, arranged in three groups and listed in the order of their necessity and availability. Group I lists materials which are vital to war needs but scarce; Group II lists materials which are also essential to war needs and currently available in reasonably sufficient quantities; Group III lists materials which are used to some extent in the war effort and are available in quantities exceeding demand and are recommended as substitutes for scarcer materials. In each group the secondary and scrap metals are each classified with the corresponding primary metal; in any given case the highest grades are the most critical and the secondary grades less critical. The order of listing has significance only in the case of metals. Materials in Group III include beech, No. 3; Douglas fir, Shop No. 3; Eastern hemlock, No. 3; Eastern white pine, No. 4 and 5; hard maple, No. 3; Idaho white pine, No. 5; Northern white pine, No. 4 and 5; Ponderosa pine, No. 5; red oak, No. 2 and 3; Southern pine, Shop No. 3; West Coast hemlock, Shop No. 3; Western larch, No. 3; Western redcedar, No. 3; white fir, No. 4; asbestos, short fiber; asphalt; brick; Portland cement; glass; gypsum and products; lime; mineral wool; linseed oil; paperboard; crude oil; gasoline and lubricating oil, except Penn grade.

Requisitions—Amendment No. 1 to Priorities Regulation No. 11, announced November 7, authorizes PRP units to extend AAA ratings under certain circumstances and permits metal mills and other suppliers of material to PRP companies to make shipments of material to be used by the purchaser in the manufacture of articles ordinarily sold from stock, if they contain the customer's PRP certificate serial numbers.

Specifications—Limitation Order L-211, issued October 23, authorizes schedules establishing standards of sizes, shapes, specifications or other qualifications of steel products, subsequent to which no material may be produced, fabricated, delivered, accepted or used except in accordance with them.

Steel drums—All supplies of new steel drum containers and parts in the hands of manufacturers were placed under complete allocation control, and packing of varnishes and drying oils in blackplate containers will be prohibited after November 30, it was announced on November 9. This date also will see the end of terneplate containers for varnish removers, liquid lacquers, lacquer thinners, lacquer stains and shellac.

Prices

Coal—Amendment No. 9 to Maximum Price Schedule No. 122 (solid fuels), effective November 1, permits dealers purchasing bituminous coal for resale to adjust the maximum price schedules to the extent of the increased cost incurred from higher minimum prices established by the Bituminous Coal Division of the Department of the Interior. The new minimum prices established by the Interior Department agency were effective October 1 and brought increases ranging from 5 to 30 cents a ton on bituminous coal. Since mine prices generally are higher than the new minimum, few dealers or consumers will be called upon to pay higher prices because of the increase.

Cross ties—Amendment No. 3 to Maximum Price Regulation 216 (railroad ties), effective November 12, establishes maximum prices for railroad ties in cases where a railroad did not receive similar ties during the first quarter of 1942. If no maximum price is established or permitted for any buyer under this regulation, the maximum price for any species and size of railroad tie shall be the price established by the Lumber Branch upon request by any such buyer or the price established by the Lumber Branch upon its own initiative. The maximum price may be established by letter or telegram. Every request for a maximum price must be accompanied by the required information.

Grey iron castings—Maximum Price Regulation No. 244, effective October 26, establishes as maximum prices for each seller the highest price at which he sold or offered for sale the same or substantially the same casting between August 1, 1941, and February 1, 1942. If he did not sell the casting or offer it for sale during that period, he may compute the maximum price by applying the pricing formula and cost factors which he used on February 1, 1942. Since May 11, maximum prices for grey iron castings had been covered by the General Maximum Price Regulation, which provides that maximum prices were the highest charged during the month of March, 1942. The new regulation reduces prices of the castings to February 1, 1942, if priced on the price-formula method, or to the highest prices in the period August 1, 1941 to February 1, 1942, if priced under the base-period provision. In computing prices of castings not sold or offered for sale in the base period, producers are directed to use February 1, 1942, direct labor rates, direct material costs, overhead rates and profit margins. A single exception from the February 1, 1942, base computation date for pricing factors is subcontracted machinery service costs. In calculating a maximum price for a casting on which machining is performed by an outside machine shop, a producer may use the actual price paid for such machining services, not to exceed the maximum price established by OPA. Permission to use such prices is given since OPA has established maximum prices for such machining services at March, 1942, levels.

Hardware—Maximum Price Regulation 261, effective November 13, establishes maximum prices for all contract or lump-sum sales of finishing builders' hardware—knobs, locks, window hardware, screen hardware and similar miscellaneous items—at the highest prices received by the manufacturer for delivery between October 1, 1941 and March 31, 1942, of hardware of approximately the same grade, quality and amount for a similar building project and to a purchaser recognized under trade practices as entitled to similar treatment. Persons other than manufacturers, including retailers having a contract hardware department previously covered only by the General Maximum Price Regulation, are bound by maximum prices based on actual cost of materials under each contract plus percentage markups for which ceilings are set in a schedule. The manufacturers and contract distributors' ceilings under Revised Schedule No. 40 were based on prices from October 1 to 15, 1941, a period so limited as to give inadequate coverage of the extremely varied jobs in this complicated industry.

Kerosene—Amendment No. 40 to Revised Price Schedule No. 88 (petroleum and petroleum products), effective November 12, establishes a maximum price of 6.75 cents a gal. on kerosene tank car deliveries f.o.b. Jacksonville, Fla. Previously the maximum price of five cents a gal. had been adjusted to 6.50 cents to reflect higher transportation costs from points of supply. Reinvestigation disclosed the prevailing price to have been 5.25 cents during the base period of October 1-15, 1941, and the quarter-cent adjustment was made to reflect prices prevailing at that time.

Price adjustments—Limitation of the grounds upon which individual ceiling price adjustments will be granted became effective on November 3 with a series of revisions in the General Maximum Price Regulation authorizing the termination on November 15 of Section 18b and similar sections in all other price regulations which had permitted wholesalers and manufacturers to apply for price adjustments on substantially the same grounds as retailers. It also revoked Section 18c allowing the filing of petitions for adjustment by any seller whose situation did not fit either 18a or 18b and who could prove the special character of his case. Section 18e was replaced by a paragraph stating that OPA, or any duly authorized agent, may adjust any maximum price established under the General Maximum Price Regulation in such cases as may be specified by supplementary regulation. Supplementary Regulation No. 15 incorporates special provisions for adjustment in maximum prices for services of carriers, other than common carriers, and for storage and terminal services. A new general adjustment provision 18c will be the only section remaining of general applicability. This new section is designed to permit local action to meet significant local shortages and provides price adjustments for any seller or group of sellers wherever a particular locality is threatened with a shortage of a commodity or service which aids the war program or is essential to a civilian standard of living consistent with the prosecution of the war; and a price adjustment will substantially reduce the local shortage; and the adjustment will not disturb supplies in any other locality, nor create need for higher prices.

Scrap rubber—Amendment 3 to Revised Price Schedule 87, effective October 31, authorizes increases in the maximum prices which may be charged to reclaimers and other processors for several classifications of scrap rubber.

Services—A manual containing an index and digests of interpretations relating to price regulations governing services was issued October 21, and brings together digests of rulings under the General Maximum Price Regulation and Maximum Price Regulation No. 165.

Southern pine—Amendments No. 4 and 5 to Maximum Price Regulation No. 19, effective November 5, change the entire table of maximum prices for large short-leaf Southern pine timbers. Instead of one length group of from 8 to 16 ft. and another from 18 to 20 ft. at two different prices on widths 9 in. and wider, there will be only one length group of from 8 ft. to 20 ft. at one price. This increases the prices of the shorter lengths. The prices on the longer lengths of 18 to 20 ft. will remain substantially the same. The amendment also changes the pricing of random length short-leaf boards. These are raised from the 8-ft. to the 12-ft. prices, but the shipment must average 12 ft. to bring the 12-ft. price. Formerly, no average was required. Similarly, the price of 2 in. by 6 in. timber was increased to equal that of 2 in. by 8 in. Formerly, the 2 by 6 price was uniformly $1 below the price of 2 by 8, although 1 by 6 and 1 by 8 were in the same classification. A third change deals with sales in which the purchaser requires an average width of an average length of 14 ft. Formerly, the seller was permitted to charge the price of the average width specified. Now, the seller is permitted the price which would have been charged if no average had been specified. Stamping of the grades where additions to the maximums are allowed on dimension prices of dense and medium grain is required in one of the several other changes effected by the amendment.

Used equipment—Amendment No. 32 to the General Regulation, effective November 9, extends to manufacturers, processors and producers permission to sell their used equipment and supplies without reference to ceilings established by the General Maximum Price Regulation, provided they were not acquired or produced for the purpose of sale. The amendment in no way affects price controls on sales by persons who make a business of buying and selling used equipment and supplies, and such sales in general remain subject to the General Maximum Price Regulation.

GENERAL NEWS

N. Y.-Miami Buses To Operate in Pool

Tickets interchangeable, lines must stagger schedules, avoid competing

Director Eastman of the Office of Defense Transportation on November 10 issued Special Order ODT B-30 directing co-ordinated operations of Pennsylvania Greyhound, Atlantic Greyhound, Pan American Greyhound and Florida Motor Lines bus services between New York and Miami, Fla. The order becomes effective November 24.

The affected bus operators are directed to honor each other's tickets, to divert traffic to each other to relieve overloads so that the operation of extra sections can be reduced, to stagger departure hours, to eliminate duplicate station and ticket selling facilities as far as possible, and to pool traffic and operations so that the average load factor of Pan American Greyhound "shall be at least equal, during each calendar month, to the average load factor of each of the other carriers on that portion of its routes which duplicates or closely parallels" the Pan American Greyhound's routes.

A somewhat similar order, effective November 25, was issued on November 11 directing co-ordinated operation of bus lines between Amarillo, Texas, and Albuquerque, N. M. Southwestern Greyhound and New Mexico Transportation routes are affected.

Urban bus operations will be curtailed in six large cities when other ODT orders become effective, it was announced November 10. In the cities affected, New York, Philadelphia, Pa., Baltimore, Md., Richmond, Va., Cincinnati, Ohio, and Chicago, adequate street-car transportation is available on closely parallel facilities, the announcement states, to allow bus operations to be reduced without causing serious congestion or inconvenience These orders become effective in Philadelphia and Baltimore on December 28, and in the other four cities on December 1. An order issued November 11 amended previous regulations affecting operations of taxicabs in New York to permit them to drive in New Jersey up to five miles beyond the corporate limits of New York. By the order effective September 22 they were not permitted to drive outside the state of New York.

Rail-Auto Plan Discontinued

Because of the tire and gasoline situation, rail-auto service, which has been in effect on Western railroads since May 1, 1940, was discontinued on October 15, for the duration. The service, in which a rail passenger could rent and drive an automobile at destination, has been performed by Railway Extension, Inc., Chicago, which operated its own automobiles and co-operated with drive-yourself companies throughout the West. In view of the circumstances, the railroads co-operated with Railway Extension by releasing it from contracts.

Would Decide for Railroads in Stockyards Case

The duties of line-haul railroads in the transportation of livestock to consignees at the Cleveland, Ohio, Stock Yards are defined, and "reasonable" charges for the loading and unloading of livestock shipments at the yards are prescribed, in a proposed report recommended to the Interstate Commerce Commission by Examiner Paul O. Carter in Docket 28421 and related cases.

The report is an outcome of a series of complaints against the Cleveland Union Stock Yards Company, and the Livestock Terminal Service Company, lessee of facilities of the stockyards company, filed with the commission by the railroads serving Cleveland, and of investigations begun by the commission early in 1940 of various facilities and practices of stockyard operators and the common carrier status thereof.

The complaints of the railroads developed from a controversy with the stockyard company over compensation demanded from the railroads for facilities used and services performed in connection with livestock shipments consigned direct to packers at the stockyards.

Pointing out that the common carrier status of the stockyard companies was established by the commission's finding in Ex Parte 127, decided in 1941, and that the Service company has continued to perform common carrier services, the examiner suggests that the commission should find that it is the duty of the railroads to provide suitable pens for unloading livestock and the services of unloading, and that the Service company's charge for performing this service for the railroads has been and will be unreasonable to the extent that it exceeds $1.50 per deck.

The examiner proposes also that the railroads are entitled to reparation, with interest, in the amounts they have paid in excess of the charge found reasonable, except for certain periods where they have waived their claim to reparation. He proposes further that the commission should find that other services performed or facilities provided by the Service company are not subject to commission jurisdiction, and that the railroads are not liable for charges therefor.

I.C.C. Reports on Dickerson Accident

Inadequate flag protection and disregard of signals are named as causes

The collision near Dickerson, Md., on September 24, involving three Baltimore & Ohio trains, has been ascribed to failure to afford adequate flag protection to a passenger train and of failure to operate the following train in accordance with signal indications. Such is the finding of the Interstate Commerce Commission in its report of the investigation conducted by Commissioner Patterson. The railroad is required to report to the commission within 30 days "as to measures which it has taken to correct the improper practices disclosed by this investigation and to prevent the recurrence of accidents of this character."

Twelve persons were killed and two others are reported missing as a result of the accident, and 76 persons were injured, including 61 passengers. Eastbound passenger train No. 18, which had stopped to repair an air compressor, had just begun to move forward, after whistling in its flagman, when it was struck in the rear by passenger train No. 20, drawn by a Diesel-electric locomotive. The two rear cars of No. 18 were derailed to the left, fouling the adjacent westbound track, on which a freight train was passing at the time, and as a result one of the passenger cars was demolished and 20 freight cars were derailed and demolished or damaged. The locomotive and one car of No. 20 were derailed and three other cars were damaged.

In addition to the details of this accident reported in *Railway Age* of October 3, page 533, other pertinent facts are disclosed in the commission report. After train No. 18 came to a stop to repair the air compressor, 6½ minutes elapsed before the whistle was sounded to recall the flagman, and about 2½ minutes elapsed from that time until the train started to move in response to a proceed lantern signal given by the flagman from the front end of the rear car. The train had moved some 30 feet when it was struck by No. 20. The report states that the accident would not have occurred if No. 18 had proceeded when repairs were completed without waiting for the flagman to return, and that in a period of 8½ minutes a person could walk westward from the point where the rear end of the train stopped a distance of 2,572 feet to 2,986 feet. As the flagman was killed in the accident, the report adds, "it could not be determined

(*Continued on page 802*)

L.I. Tells Patrons About Its Problems

Is improving service, but it's hard to make a living hauling commuters

In a series of advertisements appearing in 118 New York, Brooklyn and Long Island newspapers, both daily and weekly, the Long Island Railroad on November 10 began presentation to the public of the results of a year's independent study of its affairs by the J. G. White Engineering Corporation of New York. By a frank presentation of all the facts of the study (which was not wholly uncritical), the railroad hopes to promote mutual understanding between the railroad, the people it serves and the regulatory authorities.

The railroad, more than a year ago, engaged the White Corporation to study its organization, its income and expenditures, survey its property and its equipment and question its patrons, and then, with due respect for public interest, and for the future of the Long Island as a going concern, to recommend what should be done to improve the railroad's service. The survey was begun on June 16, 1941, and was concluded on June 15, 1942, with an eight-section report exhaustively covering every phase of the Long Island's operation, its financial structure, its problems, its accomplishments, its shortcomings and its needs. The report states that improvements needed to provide superior railroad service are not justified without assurance of sufficient income to warrant the investment these improvements would require.

In the first advertisement are excerpts from a letter from Gano Dunn, president of the J. G. White Engineering Corporation, pointing out, in part: "Taxes have increased beyond the capacity of the road to carry them; drastic reduction of taxes is necessary. . . . Except for the financial backing of the Pennsylvania, the Long Island long since would have been a receivership operation or worse. The Pennsylvania must now face the facts and decide whether or not it shall advance any more money to keep the Long Island solvent. . . ."

According to certain facts revealed by the White Corporation and the railroad's official records in the remainder of the advertisement, the Long Island's revenues indicate a trend toward complete disappearance of return on invested capital and offer no sound justification for making capital investment to effect substantial improvements in facilities. "From 1933 through 1940, the road has lost $20,000,000 on passenger service operation. Additional revenue of only 3.3 cents per passenger trip would have overcome that loss. Yet, in 1941, the tax bill alone on the basis of the number of passengers carried amounted to 5.8 cents per passenger per trip. Inadequate commutation fares, excessive taxes and loss of business to the subsidized competition of rapid transit lines have been responsible for this unsatisfactory trend of earnings."

Passenger travel and revenue have been reduced, by the subsidized competition of municipally-built rapid transit lines, to one-sixth of their 1931 levels, the White report states, pointing out also that the railroad's commutation fares are still at the 1918 level and do not reflect the value of commutation service, the rates taking no account of higher costs. Last fall's wage increase, alone, added $1,701,000 annually to operating costs. The Long Island is the only Class I road that depends upon passenger fares for more than 50 per cent of its revenue, and commutation fares make up an important part of this income. The report recommends that basic commutation fares to Flatbush avenue, Brooklyn, be increased 25 per cent, with a differential of $2.20 (the present figure) on 60-trip tickets to Penn Station, N. Y.

The report also sees need of a change in the taxation attitude of communities served by the Long Island. "Property taxes in 1940 were $2,889,396, an increase of $1,578,727 from 1922 and $793,437 higher than in 1933. Property taxes in 1940 represented 73.4 per cent of the road's total taxes. The rate of tax increase since 1933 has been nearly 5 per cent a year. These taxes, over a 20-year period (1921-1940), have absorbed almost as much of the road's total revenues as fixed charges. In the 10 years (1931-1940), taxes actually have exceeded fixed charges by more than $7,500,000, and have reached proportions beyond the ability of the road to carry them." Property and equipment of the road are reported to be in good condition from the standpoint of safety and efficiency of operation. Recommended improvements include: "Covering cinder ballast with a thin layer of stone ballast to keep down dust, improving appearance of right-of-way, correction of station deficiencies, improved 'housekeeping,' better lighting, modernization of station furniture, continuation of repairs for cars and equipment and extension of the present extraordinary maintenance program." Many of these improvements have been under way for months, including an improved and accelerated cleaning and painting program and a program for station improvement, further equipment maintenance and the use of stone ballast has been adopted.

The White report recommends a long-range program of major improvements but cautions that no program should be attempted without certainty, in advance, of ample income to justify expenditures. The suggested program includes additional electrification of 141.3 miles of roadway over three five-year periods at a total cost of $29,859,095, modernization of passenger equipment and other improvements that will contribute to an impressively superior form of service.

Sees Record Gross and N.O.I. in '42

Estimates by I.C.C. Bureau projects September trend through fourth quarter

Estimating fourth-quarter revenues on the basis of the September increase over the same 1941 month, the Interstate Commerce Commission's Bureau of Transport Economics and Statistics calculates that the 1942 gross will be 7.4 billion dollars and the net railway operating income 1.4 billion, both breaking all previous records. Meanwhile the current year's operating expenses, estimated on the same basis at 4.7 billion dollars, would be "considerably less than were incurred in 1920 and 1923."

The calculations are included in the latest issue of the Bureau's "Monthly Comment on Transportation Statistics," which sets up the figures as follows:

	Calendar Year		
	1942 (estimated millions)	1941 (actual millions)	Per Cent of Increase
Freight revenue	$5,905	$4,448	32.8
Passenger revenue	1,022	515	98.4
Other operating revenues	483	384	25.8
Total operating revenues	7,410	5,347	38.6
Operating expenses	4,690	3,664	28.0
Taxes	1,128	546	106.6
Equipment and joint facility rents	186	137	35.8
Net revenue (before taxes and rents)	2,720	1,683	61.6
Net railway operating income (after taxes and rents)	1,406	999	40.7

The 1.4 billion dollars of net railway operating income, the Bureau suggests, "would amount to seven per cent after all income and profits taxes on a value of 20 billions." It added, however, that "considerable uncertainty attaches to any estimate of net after taxes because of the adjustment in tax accruals which may take place before the end of the year." Moreover, "there is the further question as to the extent to which normal maintenance is being deferred in 1942 with a resultant overstatement of true net earnings."

Analyzing September figures, the Bureau found that month's freight revenue of $546,791,000, up 33 per cent from September, 1941, to be the highest for any September "since the records were first published in 1907." The September passenger revenue of $104,971,000, up 141.2 per cent above the comparable 1941 month, was the largest for any September since 1923. The September operating ratio was 57.3, as compared with 63.9 in September, 1941; and "never before since monthly reports were begun in 1907 has the ratio been below 60 for September."

Among individual railroads there was a wide variety of September operating ratios. From the Duluth, Missabe & Iron Range's 25.6 per cent they ran up to the Bangor & Aroostook's 103.8; 113 for the Canadian Pacific Lines in Vermont; and 141.9 for the Canadian National Lines in New England. Commenting further on the operating-ratio figures, the Bureau says it should be noted that "when operating rents and taxes (including income and profits taxes) for all districts are

combined with operating expenses, the resulting ratio to revenues for September, 1942, becomes 77.8 per cent, compared with 76.4 per cent for September, 1929."

Like railroad men and others who have commented on the matter, the Bureau thinks the 1942 carloading peak was reached in the week ended October 10 when 909,957 cars were loaded. Assuming that loadings for the remainder of the year will continue on the recent basis of one per cent less than 1941, the Bureau estimates 1942 total loadings at 43,147,682 cars, an increase of two per cent over 1941's total of 42,284,927 cars. Reviewing 1942 operating performance figures, the Bureau notes that "the revenue and non-revenue ton-miles together have not advanced as rapidly as the revenue ton-miles alone, and the rise in gross ton-miles is less than for the net ton-miles, an evidence of the economy of heavier loading."

Attention is also called to the fact that "for the first nine months of the past five years maintenance of way and structures expense has absorbed a slowly increasing proportion of total expenses (15.57 per cent in 1938 and 17.22 per cent in 1942), while maintenance of equipment expense rose from 24.65 per cent of total operating expenses in 1938 to 27.20 per cent of such expenses in 1941, dropping slightly to 26.54 per cent in 1942." On a car-mile basis, maintenance of equipment expense has risen three per cent (from 3.040 cents to 3.131 cents) for the first eight months of this year over the same period last year. Total expenses per car-mile were at the same time up 5.4 per cent, but the revenue per car mile was up 11.2 per cent. The breakdown shows that the passenger revenue per passenger-carrying car-mile was up 50.7 per cent, freight revenue per loaded freight car-mile, 11 per cent, and freight revenue per freight-train car-mile, 7.9 per cent.

The Bureau's comparison of bus passengers with railroad coach passengers notes that the buses this year have shown larger percentage gains over comparable 1941 months; but it also finds the 1942 figures indicating that "coach travel from March to July, 1942, has risen more rapidly than bus travel." In other words, the buses in March carried 2,191,750 more passengers than railroad coaches; in July, they were only 104,740 passengers ahead.

Commenting on air-carrier statistics, the Bureau notes that the rapid growth in air passenger traffic "was brought to a sudden halt by the transfer of almost 50 per cent" of the flying equipment to the Army late in May. Nevertheless, the air lines went in for intensive utilization of equipment and held to 34 per cent the drop in plane-miles flown during the three months ended with August, compared with the same 1941 period. Passengers carried were 34.5 per cent fewer, but revenue passenger-miles declined only 18.8 per cent, the average journey having increased from 350 miles in August, 1941, to 449.4 miles in August, 1942.

Meanwhile, express carried during the three months was up 102.7 per cent from the June-August, 1941, period, and express pound-miles were up 140.3 per cent, the average express load per airplane being up from 74.5 pounds to 271.4 pounds, an increase of 264.3 per cent. Air-mail statistics for recent months have not been issued, but the Post Office Department "reports poundages well ahead of last year." Some airplanes, the Bureau says, "are being flown in excess of 12 hours per day"; while the passenger load factor was this summer "the highest in the history of the industry"—80.3 per cent as compared with 64.5 per cent in the summer of 1941. United Airlines "led the industry with a load factor in August of 91.6 per cent on its system operations, a new record in the field of air transportation."

Train Riding Etiquette

In the attempt to promote more comfortable and happier train rides for its patrons, the New Haven has devoted the October issue of its "Rider's Digest" (distributed to passengers on trains) to the etiquette of train riding. It suggests unobstrusively that in these days of wartime travel, a little more consideration toward fellow passengers might be mutually helpful.

The various suggestions made in the text are emphasized in semi-humorous cartoons of which two are reproduced here. Passengers who linger at their tables in the diner long after they have finished their meals, while other passengers wait around for seats, and the "seat saver" are among the offenders tactfully reminded of the error of their ways in this entertaining little booklet.

Rushing to board a train without first "letting e'm off," crowding through narrow passages regardless of the fact that another passenger is attempting to get by, smoking in cars not designated as smokers and forcing elderly couples to sit separately in single seats—when other folks traveling alone and sitting in single seats could very easily change so the couple could ride together—are some of the other discourtesies which the Digest, in a most friendly manner, calls to the attention of its patrons.

Freight Car Loading

Loadings of revenue freight for the week ended November 7 totaled 829,490 cars, the Association of American Railroads announced on November 12. This was a decrease of 60,979 cars, or 6.8 per cent, below the preceding week, a decrease of 44,092 cars, or 5.1 per cent, below the corresponding week last year, but an increase of 51,172 cars, or 6.6 per cent, above the comparable 1940 week.

As reported in last week's issue, loadings of revenue freight for the week ended October 31 totaled 890,469 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, October 31			
District	1942	1941	1940
Eastern	163,673	187,693	164,766
Allegheny	187,451	192,271	164,269
Pocahontas ...	55,894	57,227	46,561
Southern	126,430	135,238	110,263
Northwestern ..	133,775	134,212	126,096
Central Western	144,948	137,338	126,879
Southwestern ..	78,298	60,766	55,963
Total Western Districts	357,021	332,316	308,938
Total All Roads	890,469	894,745	794,797
Commodities			
Grain and grain products	47,320	35,852	35,592
Live stock	24,843	19,821	19,830
Coal	169,690	162,311	125,305
Coke	14,436	12,740	12,350
Forest products.	47,513	44,472	40,872
Ore	63,267	59,378	62,042
Merchandise l.c.l.	92,222	158,921	155,303
Miscellaneous ..	431,178	401,250	343,503
October 31	890,469	894,745	794,797
October 24	903,246	913,605	837,657
October 17	900,767	922,884	813,909
October 10	909,957	903,877	811,906
October 3	907,607	917,896	806,004
Cumulative Total, 44 Weeks ..	36,748,225	35,820,756	30,654,313

In Canada.—Carloadings for the week ended October 31 totaled 71,882 as compared with 73,033 for the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Oct. 31, 1942.....	71,882	35,338
Oct. 24, 1942.....	73,033	34,823
Oct. 17, 1942.....	69,198	35,033
Nov. 1, 1941.....	72,970	33,136
Cumulative Totals for Canada:		
Oct. 31, 1942.....	2,848,242	1,489,006
Nov. 1, 1941.....	2,679,476	1,306,384
Nov. 2, 1940.....	2,356,430	1,081,012

Collection of Freight Tax

The Finance, Accounting, Taxation and Valuation Department of the Association of American Railroads has issued a pamphlet wherein it outlines a "suggested basis for insuring uniformity by railroads in the application of the tax on transportation of property," which becomes effective December 1. The pamphlet is designed to assist the railroads "pending the promulgation of regulations by the Commissioner of Internal Revenue."

An accompanying notice from A. A. R. Vice-President E. H. Bunnell said that it was prepared by a sub-committee of the Accounting Division's committee on freight accounts; and it is "predicated upon the best information available at this time,

including informal discussion with the staff of the Bureau of Internal Revenue." It will, of course, be superseded by the commissioner's regulations when they are issued.

Mr. Bunnell directs particular attention to the fact that the tax is imposed "with respect to amounts paid on or after December 2, 1942, for transportation on or after December 1, 1942." Thus, he explains, "if transportation was started prior to midnight of November 30, no tax is imposed upon the amounts paid for such transportation."

Old Louisville & Nashville Bridge Sold for Scrap

A total of 14,000,000 lb. of iron and steel has been salvaged from a Louisville & Nashville bridge and sold for scrap. The bridge was constructed at Valley View, Ky., in 1890 to carry the line from Versailles, Ky., to Irvine across the Kentucky river and was sold in 1932 when the line was abandoned.

R. B. White Chosen Trustee of Johns Hopkins

R. B. White, president of the Baltimore & Ohio, has been elected a trustee of the Johns Hopkins University succeeding the late Daniel Willard, who served as a trustee of the university from 1914 until his death on July 6.

October Export Traffic

Cars of export freight other than grain or coal unloaded at Atlantic, Gulf and Pacific ports in October totaled 78,079 cars, compared with 63,413 in September, 1941, according to the Association of American Railroads. Cars of grain for export unloaded in October at these ports totaled 2,540, compared with 3,232 in the same month last year.

Water Carrier Applications of P. M. and C. N. R.

The Interstate Commerce Commission has issued an order under the Interstate Commerce Act's Part III, granting the Pere Marquette temporary authority to operate as a common carrier by water of passengers and vehicles, loaded and empty (other than railroad cars), between the Lake Michigan ports of Ludington, Mich., and Kewaunee, Wis., Manitowoc, and Milwaukee.

With a finding that the service involved is not subject to Part III, the commission has dismissed the application of the Canadian Nation for a certificate covering its terminal marine operations at Portland, Me.

Would Suspend "Make Work" Rules for Duration

Suspension or revision for the duration of working rules which act as a curb on production was suggested this week in a report from the manpower subcommittee of the special Senate committee investigating the defense program, which is headed by Senator Truman, Democrat, of Missouri.

Among examples of the situations it had in mind, the subcommittee cited "some of the extremely short hauls between division points on railroads which under present contracts constitute a full day's work for the train crew." It recommended that the suspensions and revisions be worked out in conferences participated in by labor, management and public officials.

Would Cut Rates on Anthracite Coal to New York Piers

Rate reductions of 18 to 19 per cent on anthracite coal from mining regions in Pennsylvania to tidewater piers in New Jersey for transshipment have been recommended to the Interstate Commerce Commission in a proposed report by Examiner F. L. Sharp. The examiner would prescribe the lower rates for the future after finding the present basis unjust and unreasonable.

The proposed report is in No. 27766, involving the complaint of "40 corporations and one individual" whose shipments "aggregate more than two-thirds of the annual output of Pennsylvania anthracite." Among their supporters are the Commonwealth of Pennsylvania, various chambers of commerce and business men's associations, and the United Mine Workers of America.

To the so-called upper piers at Edgewater, N. J., Weehawken, Hoboken, and Jersey City, the examiner would prescribe rates of $2.10 per long ton on prepared sizes and $1.98 per long ton on pea and smaller sizes; to the so-called lower piers at Elizabethport, N. J., Port Reading, Perth Amboy, and South Amboy, he would prescribe rates of $2.05 and $1.93, respectively. Present rates, as increased in Ex Parte 148, are $2.56 and $2.44 to the upper piers, with rates to the lower piers 5 cents per ton lower, the differential which the examiner's recommended basis would preserve.

Included in the evidence reviewed in the proposed report are cost studies made by the complainants and checked by the commission's Bureau of Transport Economics and Statistics. In this connection the examiner chided the railroads for con-

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS IN THE UNITED STATES

Compiled from 132 Reports (Form IBS) Representing 136 Steam Railways
(Switching and Terminal Companies Not Included)

All Class I Railways

Income Items	For the month of August 1942	For the month of August 1941	For the eight months of 1942	For the eight months of 1941
1. Net railway operating income	$135,264,073	$111,411,489	$816,776,325	$651,615,396
2. Other income	11,797,842	12,239,740	100,012,261	98,951,941
3. Total income	147,061,915	123,651,229	916,788,586	750,567,337
4. Miscellaneous deductions from income	2,235,794	2,331,752	19,764,714	18,658,784
5. Income available for fixed charges	144,826,121	121,319,477	897,023,872	731,908,553
6. Fixed charges:				
6-01. Rent for leased roads and equipment	16,424,349	14,491,115	117,218,280	106,263,769
6-02. Interest deductions[1]	36,835,441	39,079,508	295,741,726	308,947,762
6-03. Other deductions	118,495	119,425	941,571	950,302
6-04. Total fixed charges	53,378,285	53,690,048	413,901,577	416,161,833
7. Income after fixed charges	91,447,836	67,629,429	483,122,295	315,746,720
8. Contingent charges	2,204,401	1,547,287	17,922,019	12,345,289
9. Net income	89,243,435	66,082,142	465,200,276	303,401,431
10. Depreciation (Way and structures and Equipment)	22,966,234	18,260,451	161,122,196	143,652,839
11. Amortization of defense projects	7,683,453	26,992	48,716,998	55,179
12. Federal income taxes	94,972,332	23,993,908	464,699,490	116,814,211
13. Dividend appropriations:				
13-01. On common stock	14,492,690	15,792,043	70,278,156	74,996,769
13-02. On preferred stock	4,250,586	5,520,389	18,334,461	17,591,843
Ratio of income to fixed charges[3] (Item 5 ÷ 6 — 04)	2.71	2.26	2.17	1.76

Selected Asset and Liability Items	Balance at end of August 1942	Balance at end of August 1941
20. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$506,315,301	$557,642,232
21. Cash	964,665,835	795,673,643
22. Temporary cash investments	333,041,772	133,935,534
23. Special deposits	134,711,483	194,539,861
24. Loans and bills receivable	1,011,077	1,227,062
25. Traffic and car-service balances—Dr.	39,275,053	33,647,038
26. Net balance receivable from agents and conductors	134,697,554	76,437,031
27. Miscellaneous accounts receivable	354,269,766	156,956,052
28. Materials and supplies	529,977,852	395,918,277
29. Interest and dividends receivable	19,099,102	14,851,580
30. Rents receivable	1,121,295	1,146,887
31. Other current assets	12,210,103	9,394,725
32. Total current assets (items 21 to 31)	2,524,080,892	1,813,727,690
40. Funded debt maturing within 6 months[2]	108,101,096	109,775,861
41. Loans and bills payable[3]	32,290,050	71,228,720
42. Traffic and car-service balances—Cr.	98,809,438	59,081,535
43. Audited accounts and wages payable	338,744,727	289,365,740
44. Miscellaneous accounts payable	65,381,186	50,880,003
45. Interest matured unpaid	35,320,328	26,637,943
46. Dividends matured unpaid	6,191,808	1,933,814
47. Unmatured interest accrued	82,699,271	81,692,406
48. Unmatured dividends declared	18,427,603	21,642,726
49. Unmatured rents accrued	22,837,011	23,981,046
50. Accrued tax liability	756,787,233	324,736,704
51. Other current liabilities	58,025,831	42,914,160
52. Total current liabilities (items 41 to 51)	1,515,514,486	994,094,797
53. Analysis of accrued tax liability:		
53-01. U. S. Government taxes	610,682,084	187,487,623
53-02. Other than U. S. Government taxes	146,105,149	137,249,081

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
[3] Includes obligations which mature not more than 2 years after date of issue.

News Department continued on next left-hand page

STEAM POWER IS STILL SUPREME

LINKING AMERICA'S LARGEST CITIES!

Two key points in America's economic system are the great cities of Chicago and New York . . . Chicago, the distributing point for the products of our vast midwestern manufacturing industries, and New York, the country's largest seaport and the heart of its financial structure. Nothing but the most efficient system of transportation would suffice to link these two great cities.

Along a 925-mile front, modern steam locomotives—the steel giants of the rails—are in action every minute of the day hauling the tremendous quantities of food and munitions so essential to America and its allies. Shown above is one of many Modern Lima-built 4-8-2 type Steam Locomotives which are providing fast freight service on the New York Central Railroad between Chicago and New York.

Steam is Still Supreme . . . the keystone of modern transportation.

LIMA LOCOMOTIVE WORKS — LIMA LOCOMOTIVE WORKS INCORPORATED — INCORPORATED, LIMA, OHIO

NET INCOME OF LARGE STEAM RAILWAYS

(Switching and Terminal Companies Not Included)

Name of railway	Net Income After Depreciation and Amortization of Defense Projects — For the eight months of 1942	1941	Net Income Before Depreciation and Amortization of Defense Projects — For the eight months of 1942	1941
Alton	$1,752,331	$80,496	$1,941,616	$263,674
Atchison, Topeka & Santa Fe[3]	36,705,995	17,555,522	46,915,816	25,720,918
Atlantic Coast Line	12,665,653	7,230,411	15,937,382	8,816,393
Baltimore & Ohio	19,548,143	15,148,403	26,815,104	20,172,456
Boston & Maine	5,402,400	4,686,621	6,714,396	5,635,233
Central of Georgia[3]	2,094,240	669,009	2,888,742	1,247,246
Central of New Jersey[3]	2,249,098	73,706	3,187,689	952,617
Chesapeake & Ohio	16,332,684	23,081,878	23,582,840	28,836,896
Chicago & Eastern Illinois	1,525,952	1,068,986	1,945,712	1,481,206
Chicago & North Western[3]	4,372,404	1,613,881	9,387,961	4,840,328
Chicago, Burlington & Quincy	11,864,166	6,580,638	16,525,647	10,316,376
Chicago Great Western	967,100	1,026,578	1,354,893	1,404,187
Chicago, Milwaukee, St. Paul & Pacific[2]	4,170,570	3,045,151	10,773,289	7,082,106
Chicago, Rock Island & Pacific[2]	11,334,733	3,791,511	14,267,898	6,696,815
Chicago, St. Paul, Minneapolis & Omaha	* 31,400	* 614,709	381,820	* 258,354
Delaware & Hudson	3,112,290	2,780,929	4,500,164	3,544,236
Delaware, Lackawanna & Western	2,866,048	2,744,976	5,496,555	4,393,664
Denver & Rio Grande Western[2]	5,594,162	* 2,386,585	6,970,693	* 1,502,822
Duluth, Missabe & Iron Range	3,711,567	10,132,907	4,706,720	10,731,787
Elgin, Joliet & Eastern	1,358,847	4,293,540	3,406,180	5,134,310
Erie	9,123,996	5,291,557	13,648,897	7,772,038
Grand Trunk Western	164,108	1,612,906	1,086,936	2,391,571
Great Northern	11,313,622	9,691,332	16,949,832	12,601,246
Gulf, Mobile & Ohio	2,211,019	1,414,670	2,904,748	1,983,894
Illinois Central	6,495,276	5,960,213	12,078,482	10,415,311
Lehigh Valley	2,912,356	2,581,889	5,667,092	3,906,866
Long Island	695,496	* 291,335	2,126,557	756,856
Louisville & Nashville	7,849,427	10,945,894	12,772,360	13,951,001
Minneapolis, St. Paul & Sault Ste. Marie[2]	* 2,996,053	* 2,831,265	* 1,548,438	* 1,978,713
Missouri-Kansas-Texas	2,421,968	* 294,793	3,184,337	470,294
Missouri Pacific[2]	18,178,532	1,764,124	21,592,531	4,769,753
New York Central[4]	27,020,440	18,053,638	45,063,125	30,211,940
New York, Chicago & St. Louis	5,317,198	6,194,704	6,991,955	7,312,520
New York, New Haven & Hartford[3]	11,349,881	3,845,951	14,264,594	6,060,239
Norfolk & Western	12,683,441	20,536,110	20,867,187	24,956,776
Northern Pacific	5,786,734	3,227,086	11,919,570	5,805,110
Pennsylvania	45,005,751	32,965,716	68,642,404	52,058,912
Pere Marquette	1,831,392	2,289,560	3,870,658	3,851,139
Pittsburgh & Lake Erie	2,596,904	3,848,397	4,727,364	5,478,452
Reading	8,636,512	6,083,667	11,951,055	8,108,666
St. Louis-San Francisco[2]	4,862,534	* 854,127	6,954,852	1,150,410
St. Louis, San Francisco & Texas	450,157	83,371	450,157	83,371
St. Louis Southwestern[2]	4,046,531	2,140,746	4,525,008	2,581,500
Seaboard Air Line[1]	13,107,080	851,982	14,819,377	2,486,374
Southern	14,862,271	11,150,936	21,181,911	13,705,008
Southern Pacific[5]	39,165,432	23,692,774	50,900,911	29,104,512
Texas & Pacific	4,358,300	1,856,982	5,239,555	2,703,676
Union Pacific (including leased lines)	25,105,821	10,783,479	32,335,098	16,267,349
Wabash	3,400,986	1,752,834	5,553,615	3,200,095
Yazoo & Mississippi Valley	6,874,484	1,002,851	7,247,950	1,368,468

* Deficit.

[1] Report of receiver or receivers.

[2] Report of trustee or trustees.

[3] Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.

[4] Includes Boston & Albany, lessor to New York Central R. R.

[5] Includes Southern Pacific Company, Texas & New Orleans, and leased lines. The report contains the following information: "Figures reported for Southern Pacific Transportation System exclude offsetting debits and credits for interest on funded securities and rentals for leased properties between companies included therein. Operations for 1942 of separately operated Solely Controlled Affiliated Companies (excluding results for Southern Pacific Railroad Company of Mexico), not included in income results for the System, resulted in a net income of $202,105 for the month and $359,444 for the period. These results include $197,735 for the month and $1,566,700 for the period representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by S. P. Co. and therefore, not included in the 1942 income results for the System. The combined results for 1942 for Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies (excluding S. P. RR. Co. of Mexico) amounted to a net income of $7,316,167 for the month and $41,091,576 for the period. Figures herein given exclude results of S. P. RR. Co. of Mexico for the reason that policy was adopted January 1, 1940 of making no further advances to that company, it being required to conduct its operations entirely within its own resources."

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

fining their cost presentations to efforts to rebut complainant figures, and to expressions of their conviction that it was "impossible even to approximate" the cost of handling the traffic involved. "Obviously," Mr. Sharp said," no objective will be attained without effort toward the desired end."

Propose Amendment of Fair Labor Standards Act to Aid Redcaps

An amendment to the Fair Labor Standards Act, to assure all employees covered by the act of minimum wages irrespective of tips, has been proposed in a report sent to the United States Senate by L. Metcalfe Walling, administrator of the Wage-Hour and Public Contracts Division of the U. S. Department of Labor. Specifically proposed for the benefit of railroad redcaps, the effect of the change would be to prevent other industries covered by the Act from adopting "tip accounting" systems which pass the wages of service employees directly on to the public.

The proposed amendment was suggested by Administrator Walling in response to a resolution introduced by Senator Elbert D. Thomas of Utah asking for a survey of wage, hour and working conditions for redcaps in railroad and terminal companies, in relation to the Fair Labor Standards Act and other federal statutes.

An inquiry conducted by Mr. Walling's division showed that 70 per cent of the nation's 4,500 redcaps received only tips as wages before the Wage-Hour law was passed. After the law became effective, requiring a minimum wage of 25 cents an hour during the first year and 30 cents an hour thereafter, railroads and railway terminals generally adopted a policy of counting tips received by redcaps as part of their wages, the difference between the tips received and the minimum wage received by the redcap for hours worked being paid by the company. This system was upheld by the U. S. Supreme Court. Under this plan, the inquiry showed many redcaps who received less than the minimum wage in tips nevertheless reported that they had received the minimum, possibly because they feared "that they would be discharged or disciplined if their tip earnings did not meet at least the minimum wage level."

In 1940 the above plan was superseded in most companies by the 10-cents-a-bag system under which redcaps were employed on a straight wage basis and required to collect 10 cents a bag from passengers, which was turned over to their employers. While this latter plan has caused some friction between redcaps and employers, Mr. Walling reports that the Wage and Hour division has never questioned the legality of the 10-cents-a-bag plan, and the proposed amendment is aimed primarily at complete elimination of the so-called "tips accounting plan."

Mr. Brinley Tests His Engine

The man in cap and overalls in the entrance is not, as you think, an engineman, but the builder of the engine. "The proof of the pudding is in the eating," said Charles E. Brinley, president of the Baldwin Locomotive Works, as he alighted from the cab of one of the new Pennsylvania Railroad Class T-1 locomotives.

During a recent trip to Chicago Mr. Brinley boarded the cab of Locomotive 6111 at Crestline, Ohio, and rode to Fort Wayne, Ind., a distance of 131 miles. Jimmy Warren, road foreman of engines, was at the throttle.

"It was a thrilling experience," Mr. Brin-

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ley continued, "to see at first hand the fine performance of these 4-4-4-4 passenger locomotives built by Baldwin."

Club Meetings

The Car Department Association of St. Louis will hold its next meeting at the Hotel De Soto at 8 p. m. on November 17. M. E. Fitzgerald, master car builder of the Chicago & Eastern Illinois, will present a paper entitled "Car Department in Action."

The Northwest Locomotive Association will meet at 8 p. m. on November 16 at Woodruff Hall, St. Paul, Minn. F. W. Peters, district manager of the General Electric Company, Chicago, will address the meeting on the subject of "Diesel Locomotives." As a special feature the motion picture "Railroadin' " will be shown.

The Fall dinner-meeting of the Metropolitan Chapter, New York Central Veterans Association, will be held at the Railroad Branch Y. M. C. A., New York, on November 19. The 21st annual meeting and banquet of the Chapter will be held at the Hotel Commodore on January 28.

Hoffman Named Refrigerator Car Chief by I. C. C.

The Interstate Commerce Commission has appointed Robert B. Hoffman of Chicago its agent, effective November 10, over the nation's refrigerator cars, to "supervise, co-ordinate, and direct the distribution of all refrigerator cars according to the needs of the various loading areas and with due regard to economy and their use and mileage."

The I.C.C. advised him that when necessary he should order the distribution of the cars "without regard to ownership or assignment" to give them preference over other traffic for the transportation of materials and supplies of war, to eliminate unnecessary hauls, and to reduce the use of refrigerator cars for goods which do not need that type of equipment.

Mr. Hoffman is manager of the Refrigerator Car section, Car Service division, Association of American Railroads. A photograph and biography of Mr. Hoffman were published in the *Railway Age* of September 12, 1942, following his appointment as manager of the Refrigerator Car section.

Would Require Roads to Join in Rail-Ocean-Rail Rates

Passing upon the complaint of five water carriers operating "in normal times" between North Atlantic ports, on the one hand, and Virginia ports and Savannah, Ga., on the other, Examiner Burton Fuller has recommended in a proposed report that the Interstate Commerce Commission find unreasonable and unjustly discriminatory the failure of New England and Trunk Line Territory railroads to join with complainant's carriers and their friendly rail connections in through routes and joint rates from interior New England and Trunk Line Territory points to destinations in Western Trunk Line Territory. The examiner would not, however, require that the joint rail-ocean-rail rates be made differentially lower than all-rail rates; he would require them only on the basis "contemporaneously maintained over the direct all-rail routes from and to the same points."

The proposed report is in No. 28504. The service involved has been maintained "for many years" by the water lines in connection with Pocahontas, Southern and destination railroads under the so-called "non-concurrence or proportional base plan" whereby the complainants absorb the local rates to the North Atlantic ports of the originating rail carriers. In recommending that joint rates be made mandatory only on the all-rail basis, the examiner would also have the commission stipulate that nothing in its report "is to be construed as preventing the New England or other originating carriers from joining with complainants and other carriers in the present differential basis, if they desire to do so."

Representation of Employees

Results of recent elections in representation-of-employees cases have been announced by the National Mediation Board. On the Toledo, Peoria & Western, now being operated by the Office of Defense Transportation, the Brotherhood of Railway Carmen of America, operating through the Railway Employees Department, American Federation of Labor, won the right to represent carmen, their apprentices and helpers, supplanting the Association of Mechanical Department Employees, T. P. & W. Railroad.

On the Wheeling & West Virginia and Lorain & West Virginia, the Order of Railway Conductors retained the right to represent road conductors in the face of a challenge from the Brotherhood of Railroad Trainmen. On the Conemaugh & Black Lick, the United Steelworkers of America, Congress of Industrial Organizations, has won the right to represent machinists, boilermakers, blacksmiths, carmen, the helpers and apprentices of the foregoing, and power house employees and railway shop laborers; also, it has extended its coverage of maintenance of way employees to include crossing watchmen.

Yardmasters of the Atchison, Topeka & Santa Fe have chosen the Railroad Yardmasters of America, while the National Council of Railway Patrolmen's Unions, A. F. of L., has been designated as the representative of Pittsburgh & Lake Erie patrolmen, including sergeants and extra patrolmen, and Texas Pacific-Missouri Pacific Terminal patrolmen, including special officers. Mechanical department foremen or supervisors of mechanics on the Gulf, Mobile & Ohio have chosen the American Railway Supervisors' Association, Inc.; carmen and their helpers on the Birmingham Southern, the Brotherhood of Railway Carmen; and clerical, office, station, and storehouse employees of the Pittsburgh, Chartiers & Youghiogheny, the Brotherhood of Railway Clerks.

National Trailways and Greyhound Affiliates Are Brokers

National Trailways System and Highway Tours, Inc., a subsidiary of the Greyhound Management Company, have been found by the Interstate Commerce Commission, Division 5, to be brokers insofar as their operations involve the sale, offering for sale, or solicitation of transportation of passengers and their baggage by motor vehicle in interstate commerce. The title case (No. MC-12218) involves Trailways, but the report embraces also No. MC-12203 (Sub-No. 1), the Highway Tours application.

The former gets a license for its Chicago and New York operations as a broker in arranging all-expense bus tours between points in the United States. Highway Tours' license covers like operations at Cleveland, Ohio. The commission expressed the view that such operations "will be consistent with the public interest notwithstanding the fact that applicants will be operating as brokers, and their respective members and affiliates will be operating as common carriers of passengers in the same territory."

Milwaukee Broadens Safety Work to Conserve Manpower

A program of accident prevention which concentrates upon the proper training of employees as a means of conserving manpower and insuring the continuity of the railroad's war efforts has been adopted by the Chicago, Milwaukee, St. Paul & Pacific. To carry out the program, eight

The Milwaukee's Enlarged Safety Department Meets with H. A. Scandrett, Trustee

Left to right: H. A Scandrett, trustee; L. J. Benson, assistant to chief operating officer in charge of safety; G. M. Dempsey, general safety inspector; F. M. Washburn; W. A. French; R. A. Dahms; T. E. Corbett; H. J. McMahon; M. L. Medinger; O. C. Stainer; C. W. Riley.

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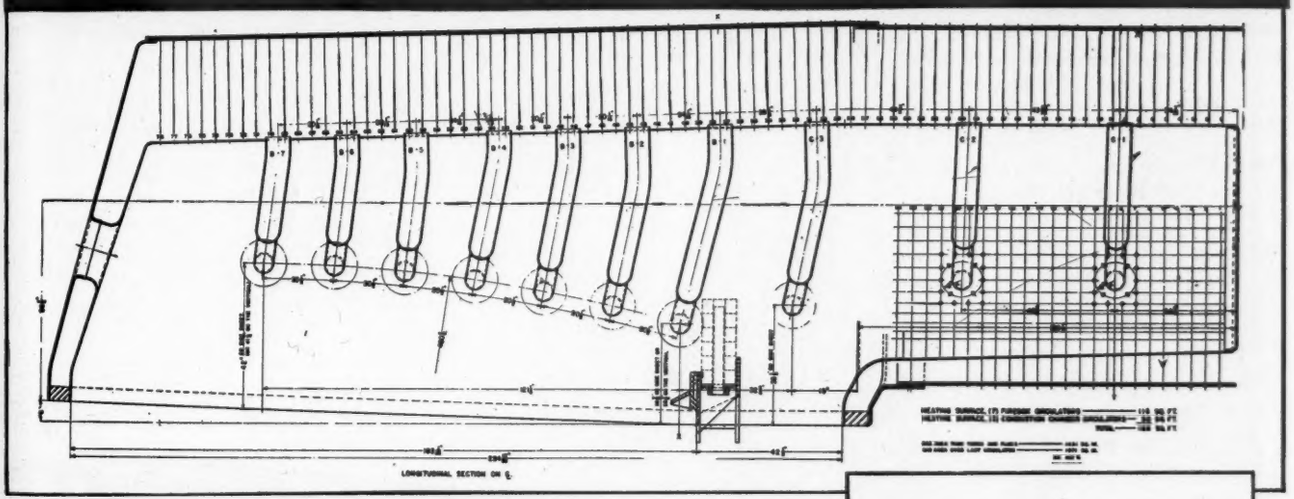
BETTER COMBUSTION

for modern freight locomotives through the application of

SECURITY CIRCULATORS



The problem of supporting brick arches has been effectively solved by the Security Circulator, a development of the American Arch Company.

In addition many other benefits have accrued. The reduction of honeycombing, flue plugging and cinder cutting lessens the maintenance of the boiler. The Security Circulator itself is extremely low in maintenance costs.

On the Security Circulators that have been installed during the last seven years, performance has been thoroughly proved by over 27,000,000 locomotive miles of service.

Improved brick arch support for locomotive fireboxes

★

Lower cost of boiler maintenance

★

Reduced honeycombing, flue plugging and cinder cutting

★

Improved circulation in side water legs

AMERICAN ARCH CO., INC.

NEW YORK • CHICAGO **SECURITY CIRCULATOR DIVISION**

newly appointed district safety engineers have each been assigned territories and will be held responsible for the training and safety of employees in their districts.

Men for the newly created position were selected from supervisory ranks on the basis of their accident records as supervisors, their activities among employees and recommendations of superiors. Under the program they will be in direct contact with all branches of railroading in their districts, will train supervisors, will spend time on the line checking performance and will attend all employee meetings.

The eight new district safety engineers and their headquarters are as follows: Otto C. Stainer, Chicago, formerly a freight service inspector; William A. French, Milwaukee, Wis., formerly a machine shop foreman; Roy A. Dahms, Milwaukee, formerly a general track foreman; Clifford W. Riley, Ottumwa, Ia., formerly a conductor; Martin L. Medinger, St. Paul, Minn., formerly a boiler shop foreman; Frank M. Washburn, Minneapolis, Minn., formerly a general car foreman; H. J. McMahon, Miles City, Mont., formerly a superintendent's chief clerk; and T. E. Corbett, Tacoma, Wash., formerly a chief dispatcher.

Nine House Committee Members Won't Be Back

As a result of the election, preceding primaries, and other causes, nine members of the House of Representatives committee on interstate and foreign commerce will leave Congress at the close of the present session. The Senate committee on interstate commerce will lose Senator Schwartz, Democrat of Wyoming, who was defeated for reelection.

Members of the House committee defeated in the election are Representatives Kelly of Illinois and Sullivan of Missouri, Democrats. Defeated in primary elections were Representatives Patrick of Alabama, Tenerowicz of Michigan, Sanders of Louisiana, Democrats, Youngdahl of Minnesota, and Paddock of Illinois, Republicans. Representative South, Democrat of Texas, withdrew after the first primary, while Representative Pearson of Tennessee was not a candidate for reelection. In addition, former Representative Cole, Democrat of Maryland, recently resigned from Congress to accept a judicial appointment, while Representative McGranery, Democrat of Pennsylvania, has resigned from the committee to become a member of the ways and means committee.

October Employment 8.44 Per Cent Above 1941

Railroad employment decreased another 0.01 per cent—from 1,321,546 to 1,321,453—during the one-month period from mid-September to mid-October, but the October total was 8.44 per cent above the comparable 1941 figure, according to the latest summary of preliminary reports prepared by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The index number, based on the 1935-1939 average as 100 and corrected for seasonal variation, was 126 for October as compared with September's 127 and October, 1941's 116.2.

The October total's decline under the previous month was due entirely to the 2.98 per cent drop in maintenance of way and structures employees, all other groups being up fractions of one per cent except the train and engine service group which was up 1.4 per cent.

Meanwhile October employment in all groups was above that of October, 1941, the range being from 5.16 per cent in the maintenance of way and structures group to 12.41 per cent for the group embracing professional, clerical, and general employees. There were 12.38 per cent more yardmasters, switch-tenders, and hostlers on the payroll, while train and engine service employment was up 11.23 per cent.

September Accident Statistics

The Interstate Commerce Commission on November 9 made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for September and this year's first nine months. The compilation, which is subject to revision, follows:

Item	Month of Sept. 1942	Month of Sept. 1941	9 mos. ended with Sept. 1942	9 mos. ended with Sept. 1941
Number of train accidents*	1,061	812	9,468	6,623
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	211	215	1,605	1,673
Injured	130	197	1,242	1,454
Passengers on trains:				
(a) In train accidents*				
Killed	12	1	32	5
Injured	89	51	834	785
(b) In train-service accidents				
Killed	10	2	40	10
Injured	181	147	1,546	1,299
Travelers not on trains:				
Killed	3	..	14	5
Injured	93	57	611	627
Employees on duty:				
Killed	67	68	672	514
Injured	3,142	2,429	24,489	18,056
All other nontrespassers:**				
Killed	192	190	1,594	1,472
Injured	553	620	4,858	4,714
Total—All classes of persons:				
Killed	495	476	3,957	3,679
Injured	4,188	3,501	33,580	26,935

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

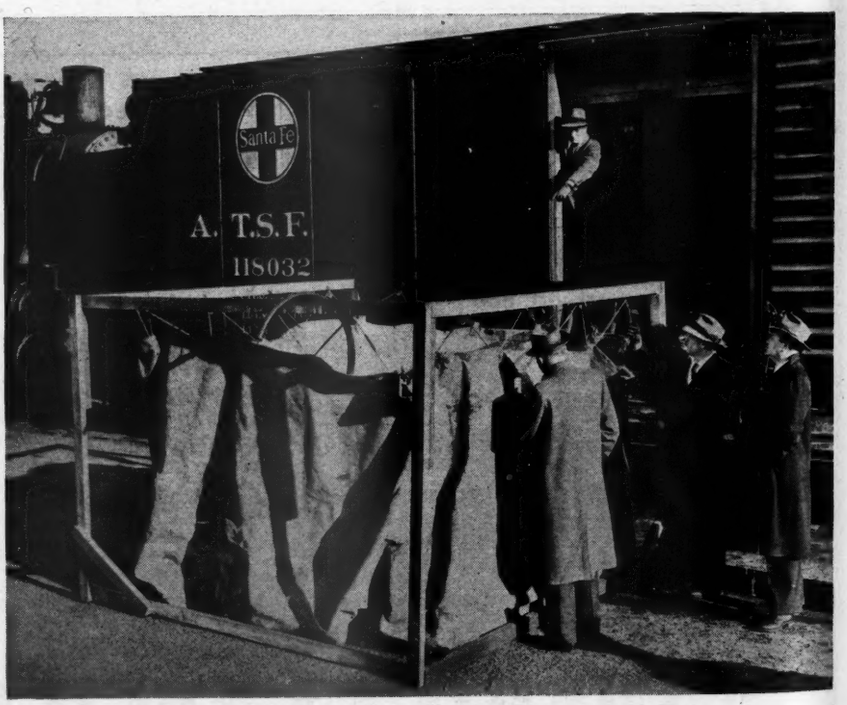
** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	169	177	1,438	1,331
Injured	353	418	3,302	3,255

Santa Fe Tries Canvas Bag for Oil Shipments

A canvas bag or container, impregnated with a synthetic rubber, Faraprene, is being tested by the Atchison, Topeka & Santa Fe as a device for transporting oil in box cars. The bag, invented by Mark J. Fields, president of the Soldine Corporation, Evanston, Ill., measures 9⅓ ft. by 8½ ft. at the base and is 5 ft. high. It is closed at the top. It is filled at the top through a 4-in. inlet and emptied at the bottom through a 4-in. outlet. It is ventilated through a hose which extends through the top.

Four containers, with a capacity of 2,500 gal., can be accommodated in a 40-ft. box car. They are suspended from the side of the car with hooks, pulleys and ropes. A wooden frame-work within the car braces



This Box Car, Equipped with Four Canvas Bags, Is Being Tested for Oil Transportation on the Santa Fe

The Wooden Framework Was Used During a Demonstration and Is Not Used to Support the Bags in the Car. Left to Right in Doorway: Mark J. Fields, inventor and R. D. Bryan, mechanical assistant, Santa Fe; On Ground, E. E. Chapman, mechanical assistant, Santa Fe; Frank Zeleny, chairman, Tank Car Committee, A. A. R.; O. L. Gray, assistant to operating vice-president, Santa Fe; E. G. Lange, sales manager, Commerce Petroleum Co.

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the bags and supports the pipes leading to the inlets.

The first car to be equipped was demonstrated at Chicago on November 3. Among those attending the demonstration were officers of the railroad, and representatives of the Association of American Railroads, the Office of Defense Transportation and oil companies.

I. C. C. Reports on Dickerson Accident

(*Continued from page 795*)

why he failed to proceed westward far enough to provide adequate protection."

The speed of train No. 20 at various points was determined from the tape of the speed recorder with which the locomotive was equipped. The automatic block signals in the territory involved are of the three-indication, one-arm, upper-quadrant, semaphore type, and are approach lighted. Tests made after the collision indicated that they were functioning properly. As No. 18 came to a stop, its rear end was 222 feet east of the home signal, which displayed stop and proceed, and 12,559 feet east of the approach signal, displaying the approach aspect, which requires under the rules of the railroad a reduction of speed so as not to exceed 30 m. p. h. According to the tape of the speed recorder the speed of No. 20 as it passed the approach signal was 66 m. p. h., and at a point 1.4 miles further east it was 64 m. p. h. At the stop-and-proceed signal the speed was 48 m. p. h., and at the point of collision it was 45 m. p. h.

While the engineer of No. 20—now indicted on a charge of involuntary manslaughter—gave conflicting testimony, the commission report indicates that he failed to observe the approach signal until his locomotive was passing it, and that he assumed that it had displayed clear for his train and did not reduce speed. At a point about 1,189 feet west of the point of the accident torpedoes were exploded and he observed a fusee burning, and in response made a service brake application. When he observed the stop-and-proceed indication of the home signal he made an emergency application, but No. 20 was then so close to the signal and to the rear of No. 18 that there was no appreciable reduction in speed before the collision occurred. Traces of exploded torpedoes also were found at a point 1,802 feet west of the point of the accident.

Describing the damage to equipment resulting from the accident, the report states that the front end and the left side of the forward unit of the Diesel-electric locomotive were demolished, "both draft gears and the center sills were broken, and the body was out of square." The body of the rear unit also was out of square, "the left side was demolished, and the right side was twisted and badly bulged." The Diesel engines, traction motors, and other parts of the locomotives were badly damaged, and the left side of the fuel tank of the rear unit was punctured. "The casualties and destruction in this accident," the report points out, "were the result largely of fire to which fuel oil from the Diesel-electric engine contributed materially." Six cars of the freight train were destroyed by fire and five by impact.

In an analysis of the causes of this accident, the commission report refers to other accidents which occurred on this railroad "as a result of failure to comply with provisions of the operating rules." It also remarks that, under the rules, "the engineer on a train hauled by a Diesel-electric engine is the only employee required to observe signal indications." An examination of tapes from speed recorders of 100 passenger trains operated through the territory in which the accident occurred during the preceding 10-day period showed, the report states, that all of these trains had exceeded authorized speeds at some point between Point of Rocks and Washington.

In the territory involved, it adds, "on 9 of the 10 days immediately preceding the day of the accident No. 20 received approach indications, which required the speed to be reduced to not exceeding 30 m. p. h., but in no case was the speed reduced below 36 m. p. h. and it ranged as high as 60 m. p. h. From this it appears that on the day of the accident No. 20 was being operated in about the same manner as on preceding days."

As a premise to its requirement that the railroad "correct the improper practices disclosed" the report asserts that "the investigation disclosed a lack of common understanding not only among employees but also among operating officials as to what constitutes proper flag protection." Attention also is called to the fact that the locomotive of No. 20 was equipped with an automatic train stop device, though the track in the territory involved is not equipped to operate it. If this system had been in operation, it adds, "this accident undoubtedly would have been prevented."

Grand Trunk Affiliate Gets Water Carrier Permit

The Interstate Commerce Commission, Division 4, has granted the Grand Trunk Milwaukee Car Ferry Company, affiliate of the Grand Trunk Western, a "grandfather" clause certificate under the Interstate Commerce Act's Part III, authorizing continuance of operations as a common carrier of passengers between the Lake Michigan ports of Milwaukee, Wis., and Muskegon, Mich.

The commission dismissed that phase of the application wherein the applicant sought a certificate covering the transportation of commodities, and also the separate application covering the whole proposal which had been filed as a precautionary measure by the Grand Trunk Western. In the former connection, the report found that the Ferry Company had transported no freight under its own tariffs since 1936 (the grandfather date from which continuous operations must run is January 1, 1940); while its carriage of loaded freight cars for its parent railroad and the Pennsylvania is exempt from Part III.

W. H. Bonneville Dies; Was I. C. C. Inquiry Bureau Director

William H. Bonneville, director of the Interstate Commerce Commission's Bureau of Inquiry since 1930, died suddenly of a heart attack on November 7 at his home in Chevy Chase, Md. He was 51 years old.

Born July 2, 1891, at Westboro, Wis., Mr. Bonneville received his higher education at University of Idaho where he was awarded an A.B. degree in 1916 and an LL.B. the following year. Before joining the commission's staff in 1920, he served in World War I as a captain in the Air Corps; and he had since been a major in the Air Corps Reserve.

His entire service with the commission has been with the Bureau of Inquiry which he joined on July 1, 1920, as an attorney. He became assistant director on January 1, 1927, while his promotion to the directorship came on January 1, 1930. In August, 1927, Mr. Bonneville served as an expert adviser at the League of Nations' Third General Conference on Communications and Transit, which was held in Geneva, Switzerland.

William H. Bonneville

Railroad Sessions at A.S.M.E. Devoted to Man Power

The program for the sixty-third annual meeting of the American Society of Mechanical Engineers, which will be held at the Hotel Astor, New York, November 30 to December 4, has been prepared with the object of aiding mechanical engineers in their job of producing for victory. War production and man power are the main topics for discussion. There will be sessions on Ingenuity, Originality in Young Americans, Management Attitudes, etc., as well as the usual program of technical papers. "Planned Conservation of Railroad Mechanical Manpower" is the theme of the Railroad Division sessions, at which the Hon. Paul V. McNutt, chairman, War Manpower Commission, Washington, D. C., will be one of the speakers. W. L. Batt, Office of Production Management, Washington, D. C., will speak on Management Attitudes under the auspices of the Management Division. A report on Diesel locomotive progress under war conditions has been prepared for presentation at a

joint session of the Oil and Gas Power and Railroad Divisions. The annual banquet will be held on Wednesday evening, December 2.

The program in part for the sixty-third annual meeting of the society is as follows:

Monday, November 30

1:45 p. m.

INGENUITY

Helicopter film.
Creative Engineering, Invention, and Intuition, Igor Sikorsky.
Discussion leaders: C. I. Barnard, A. R. Cullimore, Lawrence Langner, K. K. Paluev.

8 p. m.

ORIGINALITY IN YOUNG AMERICANS

(Panel discussion on discovery and encouraging originality, initiative, and resourcefulness in young Americans.)
The Public Vocational Schools and Creative Ability, Alonzo D. Grace.
What the Technical Institutes Can Do, Arthur C. Harper.
What the Engineering College Can Do, Paul B. Eaton.
What the Local Sections Can Do, James N. Landis.
What Industry Can Do, W. E. Johnson and K. K. Paluev.
Pride of America, A. A. Potter.

Wednesday, December 2

9:30 a. m.

MANAGEMENT ATTITUDES

How Should Management Attitudes Change, Melvin J. Evans.
Foreman Training, Wendell M. Nelson.

OIL AND GAS POWER

Investigation of Large Diesel-Engine Wristpins, Pistons, and Crank-case Explosions, Frank E. Faast.
Rating Supercharged Engines on the Basis of the Mean Temperature of the Cycle, Ralph Miller.
Inlet-Air-Temperature Corrections in a Roots Supercharger, Frederick A. Hiersch (by title).
Definitions of Volumetric Efficiency of Internal-Combustion Engines, P. H. Schweitzer (by title).

2 p. m.

Boiler Feedwater Studies

A Practical Way to Prevent Embrittlement Cracking, A. A. Berk and W. C. Schroeder.
Boiler Embrittlement, Carl A. Zapffe.

Oil and Gas Power—Railroad

Diesel Locomotive Progress Report Under War Conditions.
Speakers:
Max Essl, chief consulting engineer, Diesel Division, Baldwin Locomotive Works.
W. S. H. Hamilton, equipment electrical engineer, New York Central System.
P. H. Hatch, assistant mechanical engineer, New York, New Haven & Hartford.
B. S. Cain, assistant engineer, Locomotive Division, General Electric Company.
Paul Turner, eastern regional manager, Electro-Motive Corporation.
G. F. Wiles, supervisor Diesel-electric locomotive operation, Baltimore & Ohio.

Progress Report on Gas Turbine Locomotive Operation, Paul R. Sidler, resident engineer, Brown, Boveri & Co., Ltd.
Future Diesel Locomotive Possibilities, P. B. Jackson, Aluminum Company of America.

7 p. m.

Annual banquet.

Thursday, December 3

9:30 a. m.

RAILROAD I

Planned Conservation of Railroad Manpower
Speakers:
Hon. Paul V. McNutt, chairman, War Manpower Commission, Washington, D. C.
Otto S. Beyer, Chief, Personnel Section, Office Defense Transportation.
F. K. Mitchell, assistant general superintendent motive power and rolling stock, New York Central.
Arthur C. Willard, president, University of Illinois, Urbana, Ill.
Col. J. L. Walsh, Chairman, War Production Committee, A. S. M. E.

Mechanical Springs

Volute-Spring Formulas, C. J. Holland, president, Holland Company, Chicago.
The Testing of Volute Springs, Bernhard Sterne.
Notes on Secondary Stresses in Volute Springs, Henry O. Fuchs.

2 p. m.

RAILROAD II

Planned Conservation of Railroad Manpower
Speakers:
Brig. Gen. Julian S. Hatcher, U. S. A., Chief Military Training Division, Washington, D. C.
Dorothy Sells, assistant chief, Personnel Section, Office of Defense Transportation, Washington, D. C.
C. E. Brinley, President, Baldwin Locomotive Works.
Discussion by leading governmental, railroad, and industrial executives.

Rubber

Data on Static and Dynamic Fatigue of Rubber, Francis L. Yost.
Rubber Substitutes, E. G. Kimmich.
Progress in Plastics and Rubber During the Past Year, Gordon M. Kline and F. L. Yerzley.

Abandonments

ATLANTIC COAST LINE-LOUISVILLE & NASHVILLE.—These roads and the Carolina, Clinchfield & Ohio, lessor, have filed with the Interstate Commerce Commission a joint application seeking authority to abandon the 6.05-mile section of the Clinchfield's Dumps Creek branch between Clinchfield, Va., and Wilder, together with the 1.2-mile Hurricane spur between Hurricane Junction and Shaft.

BOSTON & MAINE.—This road has been authorized by Division 4 of the Interstate Commerce Commission to abandon its line from Farmington, N. H., to Alton, 9.13 miles.

BOSTON & MAINE.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a portion of a branch extending from a point about 0.5 mile north of its station at Dover, N. H., to a point 0.3 mile south of its Gonic station, in Rochester, approximately 7 miles.

EAST BROAD TOP RAILROAD & COAL.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its branch from Shade Gap, Pa., to Neelyton, 4.1 miles.

LOUISIANA & ARKANSAS.—This road has applied to the Interstate Commerce Commission for authority to abandon its line between St. Francisville, La., and Paloma, 7.82 miles.

NEW YORK CENTRAL.—This road has applied to the Interstate Commerce Commission for authority to abandon its Lansing branch's remaining Southern segment extending from Springport, Mich., to Jonesville, 33.03 miles.

PERE MARQUETTE.—This road has applied to the Interstate Commerce Commission for authority to abandon 10.5 miles of branch line between Coleman, Mich., and Beaverton.

PERE MARQUETTE.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a branch from North Greenville, Mich, to Howard City, 17.64 miles.

SEABOARD AIR LINE.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its branch from Turkey Creek, Fla., to Durant, 4.5 miles.

SOUTHERN PACIFIC.—The Northwestern Pacific has been authorized by Division 4 of the Interstate Commerce Commission to abandon part of a branch extending from B Street in San Rafael, Calif., to the end of the line at Fairfax, 3.88 miles.

UNION PACIFIC.—Grant of authority to abandon an Oregon Short Line branch from Montpelier, Idaho, to Paris, about 9.5 miles, is recommended in a proposed report submitted to the Interstate Commerce Commission by Examiner Paul C. Albus.

UNION PACIFIC.—A proposed report by Examiner J. S. Prichard suggests that the Interstate Commerce Commission deny the application of the Oregon-Washington Railroad & Navigation Co. for authority to abandon its branch from Biggs, Ore., to Shaniko, 69.79 miles, on the ground that a period of two years of unprofitable operation, the result in his opinion of special circumstances, does not justify such action when it appears that the loss likely to be suffered by the line's patrons exceeds any loss likely to result from its continued operation.

ZANESVILLE TERMINAL.—This company has applied to the Interstate Commerce Commission for authority to abandon approximately one-quarter mile of track between West Main street and Walnut street in Zanesville, Ohio.

Equipment and Supplies

FREIGHT CARS

THE TENNESSEE VALLEY AUTHORITY is inquiring for 44 46-ft. 10-in. container gondola cars of 70 tons' capacity.

SIGNALING

THE ST. LOUIS SOUTHWESTERN has placed an order with the Union Switch & Signal Company covering materials for the conversion of its existing automatic signaling between Illmo, Mo. and Dexter Junction to centralized traffic control signaling. This territory includes 32 miles of single track line and 15 miles of double track line. The double track will be signaled for both direction operation on each track. The work involves the installation of searchlight signals, dual-control switch movements, electric switch locks, relays and housings, with the C.T.C. control machine located at Illmo. The field work will be done by the railway company's signal construction forces.

MOTOR VEHICLES

THE PENNSYLVANIA GREYHOUND LINES, which affords co-ordinate bus service with the Pennsylvania Railroad, has received delivery of two 37-passenger intercity-type motor buses from the a. c. f. Motors Company.

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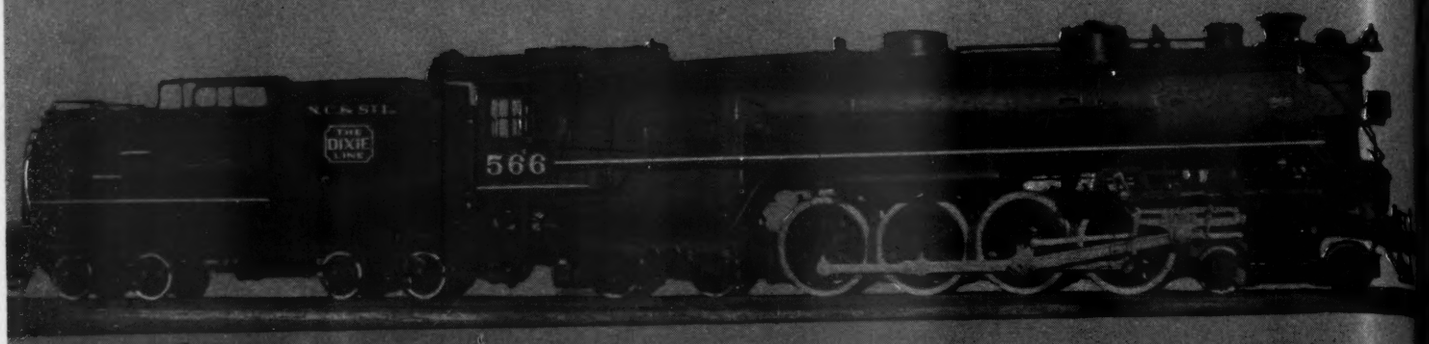


A Good Design in 1930

THE DIXIE LINE

Further Improved in 1942

THE Nashville, Chattanooga and St. Louis Railway placed in service in 1930 five 4-8-4 type locomotives for the operation of its heavy through passenger trains. In recent years however a steady increase in traffic on its banner trains, the Dixie Flyer, Dixie Limited, The Lookout and the Dixie Flagler has created a vital need for more motive power. As a result, ten new and improved 4-8-4 type locomotives were delivered recently by Alco.

The design of the new locomotives was based principally on that of the original. The new locomotives are equipped with all the latest appurtenances for greater efficiency, serviceability and reliability. They are successfully handling the heaviest trains on the most difficult Cumberland Mountain section between Chattanooga and Nashville, a division of the road replete with curves and ruling grades which demands locomotives of proven stamina.

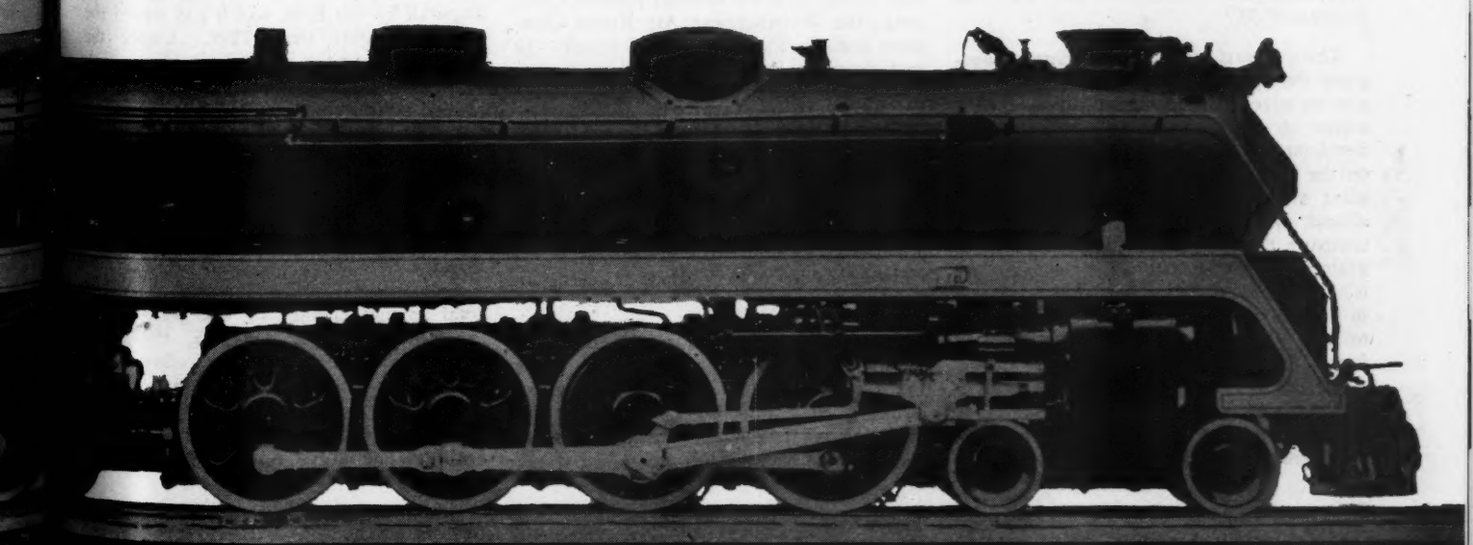
DIMENSIONS AND WEIGHTS OF THE NEW 4-8-4's

Cylinders 25" x 30"	Wt. of engine in working order	399,000 lb.
Dia. Driving Wheels 70"	Wt. on drivers	228,000 lb.
Boiler Pressure 250 lb.	Tractive Power	57,000 lb.

AMERICAN LOCOMOTIVE

Manufacturers of Mobile Power

Steam, Diesel and Electric Locomotives, Marine Diesels, Tanks, Gun Carriages and other Ordnance



Supply Trade

Pullman-Standard War Contracts Up Sharply in Past Year

War production contracts held by the Pullman-Standard Car Manufacturing Company are from 2.5 to 12 times greater than they were at the time of Pearl Harbor, according to a special issue of the company's magazine, "Carbuilder." The company has taken on in 1942 new contracts to build submarine patrol vessels for the Navy and military freight cars for the Army, the report said in summarizing the rapid growth of war work in the company's seven operating plants.

The Pullman-Standard Company now has 12 times as many airplane parts to make as it did before the Jap attack, while the tank order is eight times greater, gun carriages and mortars six times greater, anti-aircraft welds four times greater and the shell and bomb orders are up 2.5 times. Electrical power consumed in the plants which once turned out streamlined trains and freight cars has increased three-fold since early 1941. Since receipt of the company's first war contract in 1940, a total of 5,490 Pullman-Standard contracts have been awarded in 170 cities and 20 states to 960 sub-contractors ranging in size from one-man shops to a 150,000-worker industry. Of the firms selected, 795 are classified in the small business group and hold 4,762 contracts.

The enlarged plant and new main offices of the **Seamlex Company, Inc.**, are now located at 27-27 Jackson avenue, Long Island City, N. Y.

J. S. Lemley, 1886 Railway Exchange building, St. Louis, Mo., will represent the railway supplies firm of **S. O. Taylor,** Syndicate Trust building, St. Louis, during the absence of Mr. Taylor, who has been appointed to serve under the War Production Board in Washington, D. C.

The Armstrong Cork Company has been advised that the Army and Navy departments have awarded the Army-Navy production award to employees of the Lancaster, Pa., Floor division and Closure plants for high achievement in the production of war equipment. The presentation ceremonies are scheduled to take place on November 30.

The American Locomotive Company during the week of November 14 began an advertising campaign through magazines of general circulation keyed to the development of a realistic attitude to war on the part of the public. The company's plant and personnel have been converted almost entirely to war production and the company decided that its advertising program, rather than tell what the company is doing, should bring the results of war to the individual in terms of what it means to him. The advertisements, appearing in four colors and illustrated by distinguished American artists, tell about the war in a realistic way. The underlying premise of the campaign is that, in the absence of direct attacks upon our soil, the best way to keep the people in fighting spirit is to depict the war as vividly as possible with dramatic copy and art.

The **American Welding Company,** subsidiary of American Car & Foundry Company, was the recipient of the Army-Navy "E" award at its plant at Carbondale, Pa., on November 10. This plant, which is engaged in hammer- and pressure-welding operations, including the hammer welding of tank-car tanks, received the award for its accomplishments in the production of gas containers for the Chemical Warfare Service of the United States Army. The award was made by Brig. Gen. Haig Shekerjian, commanding officer of the Chemical Warfare Training Service Center, Camp Sibert, Gadsden, Ala., and was accepted by Charles J. Hardy, president, American Welding Company. The token presentation of "E" pins to employees was made by Lt. Comdr. Roy W. Drier, United States Navy. In his acceptance address, President Hardy emphasized the fact that the "E" pennant was not only an evidence of past accomplishment, but a promise of even further effort on the part of the management and employees to provide American armed forces with the material they must have to win the war.

The **American Locomotive Company** recently sponsored the 762d engineer railway Diesel shop battalion, United States Army, following an invitation to the company to do so from the corps of engineers. The suggestion that the company sponsor the battalion was first made to Duncan W. Fraser, president of the American Locomotive Company, by Colonel Lewis T. Ross of the railway branch, troops division, corps of engineers, and Mr. Fraser agreed to the recruiting of personnel from all phases of the company's operations, including clerical help, in order to insure that there would be in the unit complete familiarity with every aspect of Diesel locomotive maintenance. Major William Rogers, formerly a district service engineer for the American Locomotive Company, is senior officer in the battalion, and others who have accepted commissions are Captain George F. McGowen, formerly a survey engineer, and Lieutenants Charles C. Davis, John D. Coleman, Myron A. Tenney and W. E. Sagstetter, all of whom were Diesel service engineers. Other personnel was drawn from the General Electric Company, the Westinghouse Air Brake Company and the Exide Battery Company. In each instance the men selected were specialists in some phase of Diesel engine maintenance. The battalion was recently activated.

OBITUARY

George M. Verity, chairman of the American Rolling Mill Company, Middletown, Ohio, died in that city on November 6.

James B. Strong, formerly president of the Ramapo Ajax Corporation (now the Ramapo Ajax division of the American Brake Shoe & Foundry Co.), died at Setauket, Long Island, N. Y., on November 10. He was 66 years of age.

Financial

BUFFALO & SUSQUEHANNA.—*Weighs Rail Scrap Plan.*—The Chase National Bank, trustee, for the Buffalo & Susquehanna first mortgage bonds, has called a meeting of bondholders at the bank on November 18 to discuss a proposal to abandon and scrap the section of main line between Sinnemahoning, Pa., and Burrows, and the branch line between Wharton, Pa., and Austin, which were damaged in the floods of last July. The Baltimore & Ohio, which operates the mortgaged lines, has filed an application with the Interstate Commerce Commission for authority to abandon the lines. The application reported that these lines have been operated at a loss since 1937 except for a profit of about $2,000 in 1940, and that the existing and prospective business does not justify restoration, estimated at $658,000.

CANADIAN NATIONAL.—*New Director for Central Vermont.*—Horace H. Powers of St. Albans, Vt., general attorney of the Central Vermont since 1925 and general attorney in the United States for the Canadian National, was elected to the board of directors of the Central Vermont on November 6.

CENTRAL OF NEW JERSEY.—*Jersey City (N. J.) Assessment Cut.*—The New Jersey state board of tax appeals on November 5 reduced to $14,987,593 from $22,447,020 the 1942 assessment on the railroad's second-class property in Jersey City, N. J. The higher valuation was set by the state tax commission and the reduction will cost the municipality approximately $225,000. This loss to the city will be offset in part by an accompanying increase in revenue from the railroad franchise tax. The board also reduced to $1,540,413 from $2,717,308 the assessments on the railroad's "main stem" properties in Jersey City which, like second-class property, is taxed at a flat rate of 3 per cent of its assessed value.

ERIE.—*To Acquire Trackage of Northern of New Jersey.*—Federal Judge William F. Smith of the United States district court at Newark, N. J., has announced he would sign an order confirming a reorganization plan under which the trackage of the Northern of New Jersey will be acquired by the Erie, which has leased the trackage rights since 1899. Under the plan, new securities of the Erie, plus a cash payment, will be issued to Northern security holders.

FONDA, JOHNSTOWN & GLOVERSVILLE.—*Reorganization Expenses.*—Division 4 of the Interstate Commerce Commission has determined the amounts of claims for allowances of compensation for services rendered and expenses incurred in this company's reorganization proceedings. The total amount claimed for the period from April 20, 1933, to May 15, 1942, was $150,008, of which the report allows $69,573. Most of the claims were scaled down, and two, including one by John L. Mosher, a bondholder, for $10,000, were disallowed entirely. The largest claim, that of Willkie,

Owen, Otis, Farr & Gallagher, counsel for the protective committee for consolidated general refunding bonds, for $75,000, was allowed to the extent of $35,000. This committee was allowed $11,304 on its claim for other expenses of $21,304, and its depository, the New York Trust Company, was allowed $10,090 on its claim of $15,626, as well as another allowance of $6,951 on a claim of $9,951 as mortgage trustee.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—*Court Approves Reorganization Plan.*—The United States district court at Minneapolis, Minn., on November 7 approved the reorganization plan of the Minneapolis, St. Paul & Sault Ste. Marie. The plan, already sanctioned by the Interstate Commerce Commission, will now be presented to the bondholders for formal approval. (For details of the plan as approved by the I. C. C. in March and amended in June, see the *Railway Age*, issues of March 28, page 654, and June 27, page 1237.)

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE. — *Reorganization.* — The District Court at Minneapolis, Minn., on November 9, approved the plan of the Interstate Commerce Commission for the reorganization of the Soo Line and the plan will now be submitted to the bondholders for their formal approval. The court commented favorably on the I. C. C.'s action in accepting $95,000,000 as the proper capitalization of the property and stated that the court was taking cognizance of the abnormal conditions resulting from the war which have recently swollen the earnings of the Soo. The court had previously overruled contentions that the valuation should be larger and had decided that the new company must be established on a basis that will permit the payment of fixed charges and fair returns after the flood of wartime traffic has ceased.

MISSOURI PACIFIC.—*Trustee Asks for Interest Payments.*—The trustee of the Missouri Pacific has filed a petition with the United States district court at St. Louis, Mo., asking for authority to pay bond interest aggregating $10,070,612. Hearings have been set for November 13. The trustee proposes to pay $6,579,762 accumulated interest on one semi-annual coupon of the railroad's first and refunding mortgage bonds; $2,283,350 in interest on the New Orleans, Texas & Mexico first mortgage and income bonds (covering two semi-annual coupons); and $1,207,500, covering a nine-months' interest accrual on International-Great Northern first mortgage bonds. The district court already has under advisement a motion by the Missouri Pacific, supported by the Alleghany Corporation, asking authorization for the repayment of the railroad's debt to the Reconstruction Finance Corporation, amounting to $23,134,800, plus interest.

ST. LOUIS SOUTHWESTERN.—*Southern Pacific Approves and Objects to Reorganization Plan.*—Counsel for the Southern Pacific, which is at the same time a creditor and a stockholder of the St. Louis Southwestern, testified in the United States district court at St. Louis, Mo., on November 5 that the railroad, as owner of $23,000,000 in bonds of the Cotton Belt, felt the reorganization plan was fair and equitable; and that, as majority stockholder, the railroad felt that its stock interests should not be wiped out. The case has been taken under advisement and attorneys were granted until February 1 to file briefs. Under the I. C. C.-approved plan, the Southern Pacific, which owns a majority of the stock of the St. Louis Southwestern, would lose its present stock interests, but would retain control of the railroad through an exchange of bonds for new stock.

Average Prices of Stocks and Bonds

	Nov. 10	Last week	Last year
Average price of 20 representative railway stocks..	29.57	30.26	27.94
Average price of 20 representative railway bonds..	68.32	68.87	64.83

Construction

CHESAPEAKE & OHIO.—Division 4 of the Interstate Commerce Commission has extended from December 31, 1942, to December 31, 1944, the time within which this road must complete an extension in Raleigh County, W. Va., authorized in Finance Docket No. 5353.

Also the Interstate Commerce Commission, Division 4, has extended from December 31, 1942, to December 31, 1944, the time in which the Levisa River, a subsidiary of the Chesapeake & Ohio, must complete an extension in Pike County, Ky., authorized in Finance Docket No. 7833.

MISSOURI PACIFIC.—This road has been authorized by Division 4 of the Interstate Commerce Commission to construct a line in Bates County, Mo., approximately 1 mile in length, to afford it connection with mine tracks serving the Hume-Sinclair Mining Co. and with the Kansas City Southern.

WAR DEPARTMENT.—Two contracts have recently been awarded in amount less than $500,000 and more than $100,000 for railroad construction as follows: The U. S. Engineer Office, Jacksonville, Fla., to B. B. McCormick & Sons, Inc., and the Okeechobee Construction Company, Jacksonville, for the construction of a railroad spur track in Florida, including furnishing the materials and the clearing, grading, track laying, ballasting, bridges, culverts, fences, etc.; and the U. S. Engineer Office, Albuquerque, N. M., to the Waco Construction Company, Waco, Tex., for the construction of railroads (additional construction) in New Mexico. Other contracts recently awarded are as follows: The U. S. Engineer Office, Wilmington, N. C., to Grannis, Higgins, Thompson & Street Co., Charlotte, N. C., in amount less than $100,000 and more than $50,000, for the construction of a spur track in North Carolina. The U. S. Engineer Office, Memphis, Tenn., to Russell J. Reid, Birmingham, Ala., in amount less than $50,000, for the construction of railroad tracks in Tennessee.

Railway Officers

EXECUTIVE

D. E. Galloway, assistant vice-president of the Canadian National in charge of telegraphs and telephones, with headquarters at Toronto, Ont., has retired and **W. M. Armstrong,** assistant chief of research and development, has been appointed to succeed Mr. Galloway, with the title of general manager. Mr. Galloway has retired at his own request after approximately 42 years of service with the C. N. R. and its predecessor companies. He entered railway service as a clerk in the Grand Trunk claims department at Hamilton, Ont., in February, 1901. After serving in various positions he was appointed assistant vice president of the C. N. R. and its subsidiary companies in October, 1924. In 1931 he was appointed assistant vice-president in charge of the telegraph and telephone department at Toronto, the position he held at the time of his retirement.

D. E. Galloway

W. M. Armstrong

W. M. Armstrong is a native of Ottawa. He began his railway career in 1920 as assistant engineer of the Canadian National. In 1923 he was appointed to the

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100% Incr
T.R.R.A.
150,000
Average revenue carloads handled monthly by the Terminal Railroad Association of St. Louis in 1938 to May 1942.
75,000
554
GM DIESEL SWITCHERS
DELIVER VICTORY TRANSPORTATION
Because They
• Speed yard movements with safety and minimum damage to lading and equipment
• Reduce operating costs 50 per cent
• Reduce fuel expenses 75 per cent
• Operate at 94 per cent availability
• Conserve equipment — GM locomotives in all classes of service are replacing two to four times as many steam locomotives, thus releasing hundreds of steam locomotives for other important services
• Conserve vital materials — One ton of materials in a GM Diesel will do the work of more than two tons of materials in a steam locomotive.
TRANSPORTATION IS VITAL FOR VICTORY
GENERAL MOTORS
LOCOMOTIVES
ELECTRO-MO
GENERAL MOTORS CORPORATION

...se and No Bottlenecks

...uis Keeps Heavy Traffic Moving

...TH DIESEL SWITCHERS

IN the four years, 1938 to 1942, the average revenue carloads handled monthly by the Terminal Railroad Association of St. Louis increased 100 per cent from 75,340 to about 150,000 cars. The average time on all cars handled in interchange by the T. R. R. A. has also been reduced to under eight hours, as compared with an average of 12 hours only a few years ago. This is the kind of transportation efficiency which spells VICTORY.

Two major factors have made possible this efficient and successful operation—intelligent supervision and the installation of 28 Diesel switchers, of which nine were built by General Motors.

The foresight of the T. R. R. A. management in purchasing these Diesels has eliminated any possibility of a power shortage, which would seriously interfere with its operation. By continuing the present efficiency in locomotive utilization, they will have sufficient power to handle the heavier traffic which is inevitable.

MORE THAN EVER BEFORE—WE MUST KEEP 'EM ROLLING

...TIVE DIVISION

LA GRANGE, ILLINOIS, U. S. A.

Bureau of Economics, C. N. R. During World War I he served overseas. From 1924 to 1929 he was assistant to Mr. Galloway. Mr. Armstrong was made assistant chief of research and development of the road in 1939.

O. M. Stevens, president and general manager of the American Refrigerator Transit Company (owned by the Missouri Pacific and the Wabash), with headquarters at St. Louis, Mo., has been granted a leave of absence for special service for the United States Government as director of the American Railroad Administration in Mexico. During the absence of Mr. Stevens, the company's affairs will be administered by **J. P. Finkenaur,** vice-president.

FINANCIAL, LEGAL AND ACCOUNTING

A. B. Van Pelt has been appointed assistant secretary of the Wabash, with headquarters at St. Louis, Mo.

Joseph C. Kauffman, general attorney of the Chesapeake & Ohio, the New York, Chicago & St. Louis (Nickel Plate) and

Joseph C. Kauffman

the Pere Marquette, with headquarters at Cleveland, Ohio, has been promoted to general solicitor of the three roads. Mr. Kauffman was born at Detroit, Mich., on March 1, 1898, and attended the University of Michigan. He entered railway service on June 1, 1922, as an attorney of the Pere Marquette at Detroit, Mich., and was promoted to general attorney in 1928. In 1938 he was advanced to general attorney of both the Pere Marquette and the Chesapeake & Ohio, with headquarters at Cleveland, and in 1939 he was made also a general attorney of the Nickel Plate.

R. J. Wagner, assistant to the comptroller of the Louisville & Nashville, has been appointed tax commissioner, with headquarters as before at Louisville, Ky. **J. J. Ryan** has been appointed real estate agent.

L. C. Groom, administrator of the land and property department of the Canadian National at Montreal, Que., has been appointed manager of real estate with the same headquarters. Mr. Groom was born on November 8, 1884, at Guelph, Ont. In 1908, after eight years of banking experience, he entered railway service as a clerk in the land department of the Canadian Northern (now Canadian National) at Toronto, Ont. In April, 1909, he became chief clerk, and in 1919, was promoted to auditor. Mr. Groom became acting administrator of the land and property department of the Canadian National in 1933,

Leonard C. Groom

and was appointed administrator of the land and property department in 1936, which position he maintained until his recent appointment.

OPERATING

J. H. Read has been appointed terminal trainmaster of the Baltimore & Ohio, with headquarters at Brunswick, Md.

E. S. McCracken, whose promotion to general superintendent of the Algoma district of the Canadian Pacific, with headquarters at North Bay, Ont., was reported in the *Railway Age* of October 31, entered the service of the C. P. R. in 1910 as fireman at Medicine Hat, Alta. Previous to that time, Mr. McCracken was a machinist on the Intercolonial Railway in New

E. S. McCracken

Brunswick. In 1917 he was appointed engineer at Medicine Hat and two years later he became road foreman of engines. In 1921 he was transferred to Lethbridge, Alta., as master mechanic, remaining in that position until 1926, when he became assistant superintendent at Calgary. He was transferred in the same position to Lethbridge in 1929 and in 1934 he was promoted to superintendent at North Bend, B. C. Two years later Mr. McCracken was transferred in the same capacity to Nelson, B. C. From the latter date until his recent promotion, Mr. McCracken served successively as superintendent at Revelstoke, B. C., and Medicine Hat.

C. O. Hooker has been appointed superintendent of the Kalispell division of the Great Northern, with headquarters at Whitefish, Mont., succeeding **John M. Budd,** who has been granted a leave of absence for service with the U. S. Army.

C. A. Birge, Jr., has been appointed trainmaster of the Missouri-Kansas-Texas at Smithville, Tex., with jurisdiction over the territory from Smithville to Waco and Waco to Rotan. **J. I. Poole,** trainmaster, has been given jurisdiction over the territory Houston, Tex., to San Antonio via the San Marcos division and Austin, Tex., to Granger, with headquarters at Smithville. **J. R. Ellis** has been appointed trainmaster of the North Texas district, with headquarters at Dallas, Tex., and with jurisdiction over the Dallas, Denton and Mineola divisions. **A. F. Winkel,** trainmaster, has been given jurisdiction over the Fort Worth and Henrietta divisions, the Sherman branch and the Denison-Ray terminal, with headquarters at Fort Worth, Tex.

TRAFFIC

J. D. Coppedge has been appointed general agent of the Quanah, Acme & Pacific at St. Louis, Mo.

J. D. Baker, assistant manager of mail, baggage and express traffic of the Chicago, Burlington & Quincy, with headquarters at Chicago, retired on October 31.

C. H. Faupel, commercial agent of the Akron, Canton & Youngstown and the Northern Ohio at Chicago, has been promoted to general agent at Akron, Ohio.

William J. Kelley has been appointed district freight representative of the Baltimore & Ohio, with headquarters at New Haven, Conn., succeeding **James W. Kelly,** transferred.

Clyde E. Mathias, traveling freight agent of the Chesapeake & Ohio at St. Louis, Mo., has been promoted to general agent of the Pere Marquette at Winston-Salem, N. C.

Robert S. Caird, manager of Burlington escorted tours, with headquarters at Chicago, has been appointed assistant general passenger agent of the Chicago, Burlington & Quincy, with the same headquarters.

Alan Browning has been appointed general Eastern traffic agent, freight traffic department, of the Central of Georgia, with headquarters at Washington, D. C. The position of general agent has been abolished. **William F. Molinet,** commercial agent, has been promoted to Eastern traffic agent, freight traffic department, with headquarters at New York, succeeding **Henry R. McLean,** whose death on

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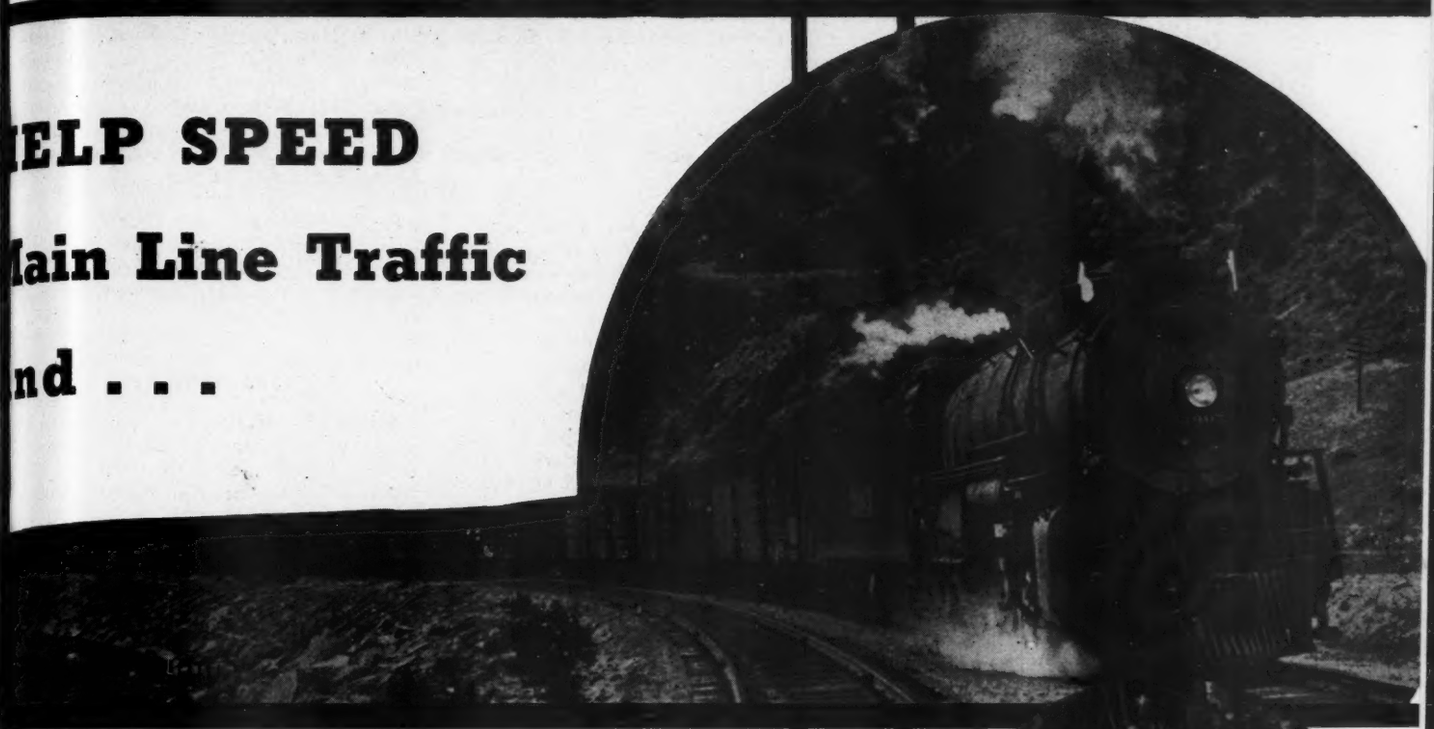
Modern AIR BRAKES *Properly Maintained*

ELP SPEED
Main Line Traffic
nd . . .



acilitate Terminal Shifting

HE railroad task today is tremendous. It is being met in a distinctive way with resourceful use of ilable facilities. Vital freight keeps rolling over road at intensive pace. Motive power and rolling ck are being taxed to their utmost . . . Playing an portant part in the timely movement of volume traf- safely, are modern air brakes — the 8-ET on loco- tives, the AB on freight cars, and the 14-EL on itchers . . . Proper and adequate brake control ovides for smooth train handling, safeguards and edites operation enroute, and facilitates yard class- ation of traffic . . . Long life is built into these up- date equipments, and by reasonable care they are t conditioned for rigorous, continuing service.

WESTINGHOUSE AIR BRAKE CO.

ILMERDING, PENNSYLVANIA

October 11 was announced in the *Railway Age* for October 17.

Lowell C. Adcock, division freight agent of the Southern at Birmingham, Ala., and **Charles C. Greenlee** have been appointed assistants to the freight traffic manager, with headquarters at Washington, D. C., effective November 15.

Ira E. Terry, assistant general freight and passenger agent of the Delaware & Northern at Margaretville, N. Y., has been appointed commercial agent of the New York, Ontario & Western, with headquarters at Utica, N. Y., succeeding **R. C. Reinhardt** who has resigned.

P. R. Ceder has been appointed general agent of the Southern Pacific at Denver, Colo., succeeding **J. E. Bolin,** who has been transferred to Kansas City, Mo., relieving **Paul E. Carneck,** whose promotion to assistant to the general traffic manager at Chicago was reported in the *Railway Age* of October 17.

V. C. Kline, division freight agent of the Pennsylvania at Harrisburg, Pa., has been transferred to Philadelphia, Pa., for special duty. **R. D. Clemens,** district freight agent at Washington, D. C., succeeds Mr. Kline at Harrisburg. **W. M. Hardt, II,** special representative, has been appointed division freight agent with headquarters as before at Washington.

Robert E. Dietwig, chief clerk of the district freight and passenger office of the Southern Pacific at Medford, Ore., has been promoted to general agent of merchandise traffic at Portland, Ore., succeeding **Arthur Y. Alcorn,** whose appointment as district freight agent at Portland was reported in the *Railway Age* of October 31.

Charles W. Gowl, general eastern freight agent of the Southern at New York, has been appointed assistant general freight agent at Birmingham, Ala. **Earl Brown,** district freight agent at Birmingham, has been promoted to division freight agent at that point, succeeding **L. C. Adcock,** whose promotion to assistant to the freight traffic manager at Washington, D. C., is reported elsewhere in these columns.

D. B. Ransburg, assistant general passenger agent of the Minneapolis & St. Louis, has been promoted to the newly created position of general passenger agent, with headquarters as before at Minneapolis, Minn., and **S. A. Swanson** has been appointed assistant general passenger agent, succeeding Mr. Ransburg. **C. M. Leach,** commercial agent at Kansas City, Mo., has been advanced to general agent at that point, relieving **C. E. Husting,** who has been granted a leave of absence for military service.

T. O. Chrismer has been appointed general agent, freight department, of the Wabash at Little Rock, Ark., succeeding **T. G. Smith,** who has entered the service of the U. S. Navy. **Roy H. Jones,** general agent at Salt Lake City, Utah, has been transferred to Seattle, Wash., replacing **J. E. Holton,** who retired on October 31 after 45 years' service, and **R. B. East** has been appointed general agent at Salt Lake City, relieving Mr. Jones. **R. D. Farrell,** district freight and passenger agent at Portland, Ore., has been appointed general agent at that point, a change of title.

Frank M. White, Jr., whose promotion to foreign freight agent of the Baltimore & Ohio and the Alton, with headquarters at Chicago, was reported in the *Railway Age* of November 7, was born in Chicago on September 28, 1905, and entered railway service in August, 1921, in the freight traffic department of the Baltimore & Ohio at Chicago, serving in various office capacities. On October 16, 1925, he was promoted to chief clerk of the foreign freight department and on August 1, 1929, he was advanced to foreign freight representative. Mr. White later became foreign freight representative of both the B. & O. and the Alton, when control of the Alton was obtained by the B. & O., which position he held until his recent promotion.

ENGINEERING & SIGNALING

Guy Long, division engineer of the Baltimore & Ohio at Wheeling, W. Va., has been transferred to Grafton, W. Va., succeeding **E. J. Clopton,** who has been transferred to Akron, Ohio. **J. H. Lindsay** succeeds Mr. Long as division engineer at Wheeling.

SPECIAL

Charles W. Moore has been appointed advertising manager of the Great Northern, with headquarters at St. Paul, Minn., succeeding **Okane J. McGillis,** whose death on September 27 was reported in the *Railway Age* of October 3.

Dr. Frank C. Hammitt has been appointed chief surgeon of the Peoria & Pekin Union, with headquarters at Peoria, Ill., succeeding **Dr. Robert M. Sutton,** who has entered military service.

MECHANICAL

James J. Ryan, general foreman of the Chicago, Rock Island & Pacific at Armourdale (Kansas City), Kan., has been promoted to master mechanic of the Arkansas division, with headquarters at Little Rock, Ark., succeeding **William B. Embury,** who retired from service on October 31.

W. G. Ringland, assistant master mechanic of the New York Central, has been appointed master mechanic, in charge of the motive power and car department, Pennsylvania division, with headquarters as before at Avis, Pa. The positions of division general car foreman and assistant master mechanic at Avis have been abolished.

F. J. Carty, master mechanic of the Boston & Albany at South Station, Boston, Mass, has been transferred to Beacon Park, Allston, Mass., and **W. S. Rich,** assistant master mechanic at Beacon Park, Allston, has been transferred to West Springfield, Mass. **C. H. Wright,** general car inspector at Boston, has been appointed division general car foreman, with headquarters at Beacon Park, Allston.

F. A. Baldinger, district master mechanic of the Baltimore & Ohio at Baltimore, Md., has been appointed general supervisor of locomotive maintenance with the same headquarters.

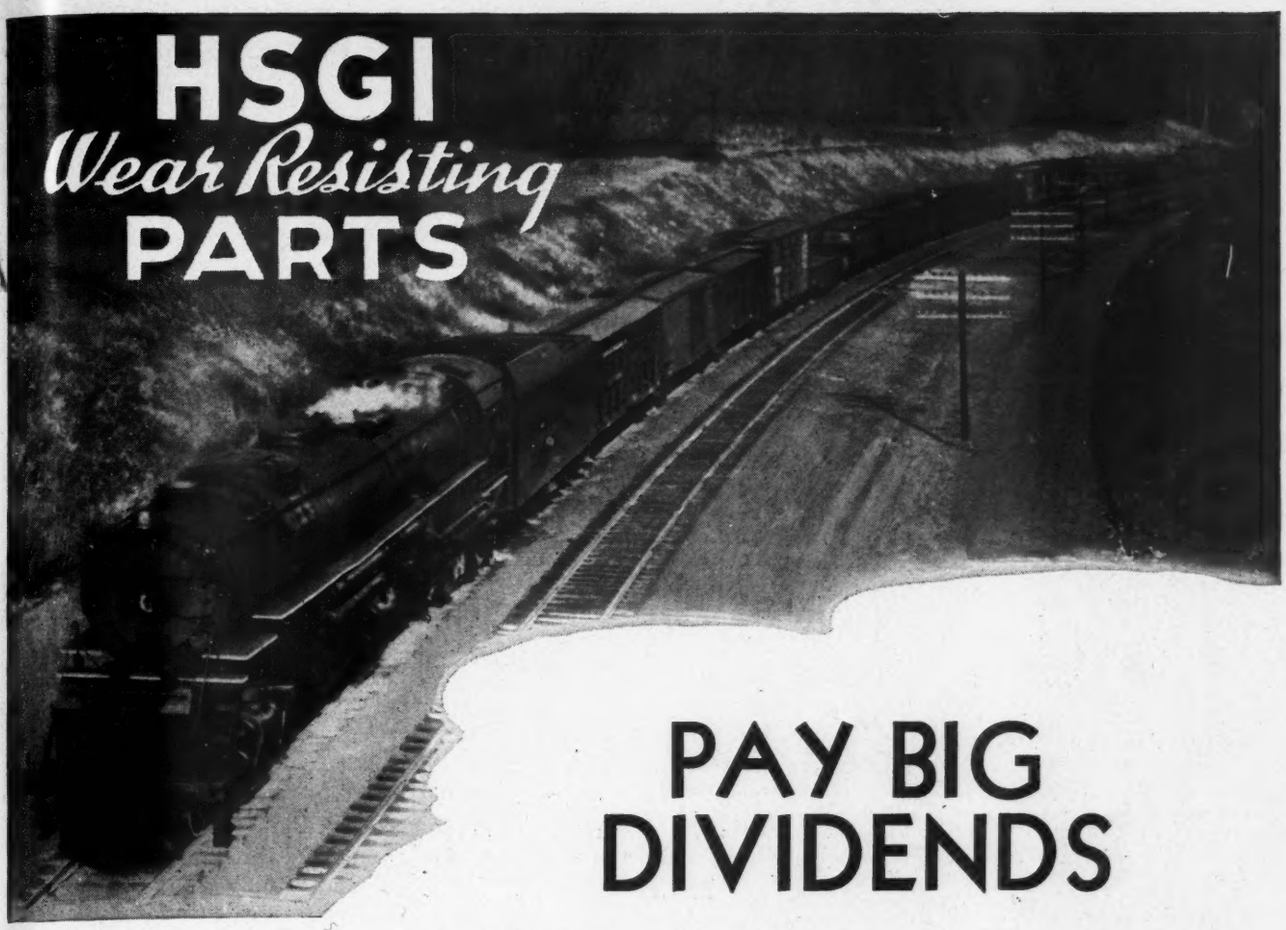
OBITUARY

James J. Heron, assistant general freight agent of the Northern Pacific at St. Paul, Minn., died on November 6, following a heart attack suffered two weeks previously.

George H. Batchelor, general agent of the Kansas City Southern-Louisiana & Arkansas lines at Kansas City, Mo., died in St. Luke's hospital in that city on November 3 after a short illness.

Joseph T. Saunders, vice-president in charge of freight traffic of the Southern Pacific system, with headquarters at San Francisco, Cal., died suddenly of a heart attack on November 7. Mr. Saunders was born at Fort Worth, Tex., on May 25, 1884, and entered railway service in September, 1903, as a stenographer on the Southern Pacific. Later he was advanced successively through the positions of contracting freight agent, correspondence secretary to the assistant general freight and passenger agent, chief clerk in the general freight office at Los Angeles, Cal., and assistant general freight agent at San Francisco. In December, 1921, he was promoted to general freight agent, with headquarters at Los Angeles, then being further promoted to assistant freight traffic manager at the same point in August, 1923. Mr. Saunders was promoted to freight traffic manager, with headquarters at San Francisco, in July, 1926, and on November 1, 1929, he was advanced to vice-president in charge of system freight traffic, with the same headquarters.

Joseph T. Saunders



PAY BIG DIVIDENDS

THE higher the tractive effort, the greater the necessity for insurance against power losses.

Every form of protection must allow for the quality of the wearing materials inside the valves and cylinders.

The fact that the majority American railroads have standardized on HUNT-SPILLER *Air Furnace* GUN IRON for these vital parts is evidence that this wear-resisting material offers maximum protection against power losses and pays big dividends in the form of savings in fuel and maintenance costs.

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Crosshead Shoes
Hub Liners
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Dunbar Sectional Type Packing
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for Cylinders and Valves
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Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
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Cylinder Liners and Pistons
for Diesel Service

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HUNT-SPILLER GUN IRON
Air Furnace

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled From 133 Monthly Reports of Revenues and Expenses Representing 136 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF SEPTEMBER, 1942 AND 1941

Item	United States		Eastern District		Southern District		Western District	
	1942	1941	1942	1941	1942	1941	1942	1941
Miles of road operated at close of month	43,635	44,101	130,065	130,894	230,540	232,127	56,840	57,132
Revenues:								
Freight	$546,791,046	$411,240,755	$212,467,858	$171,772,083	$102,519,080	$77,205,728	$231,804,108	$162,252,944
Passenger	104,971,027	43,521,277	46,613,653	22,982,815	20,746,025	6,407,050	37,611,349	14,131,412
Mail	8,881,728	8,701,764	3,235,125	3,200,758	1,607,823	1,488,139	4,038,780	4,012,867
Express	9,243,507	5,725,946	3,602,689	2,572,798	1,494,123	860,480	4,146,695	2,292,668
All other operating revenues	27,904,838	19,789,159	12,467,681	9,515,121	3,513,850	2,212,135	11,923,307	8,061,903
Railway operating revenues	697,792,146	488,978,901	278,387,006	210,043,575	129,880,901	88,173,532	289,524,239	190,761,794
Expenses:								
Maintenance of way and structures	75,637,517	56,023,638	31,125,307	23,251,708	12,561,005	9,145,841	31,951,205	23,626,089
Maintenance of equipment	102,387,202	83,151,619	44,209,686	38,892,318	19,617,983	15,349,371	38,559,533	28,909,930
Traffic	9,736,955	9,070,888	3,562,846	3,319,746	1,860,641	1,759,259	4,313,468	3,991,883
Transportation—Rail line	191,551,194	148,959,074	85,129,789	67,570,014	31,983,720	23,779,887	74,437,685	57,609,173
Transportation—Water line	*d*180	25,369	.....	.....	.....	.....	*d*180	25,369
Miscellaneous operations	7,197,063	4,014,451	2,725,937	1,669,691	1,108,728	499,029	3,362,398	1,845,731
General	13,195,956	11,439,018	5,324,699	4,492,411	2,574,523	2,219,754	5,296,734	4,726,853
Transportation for investment—Cr.*	.....	395,860	.....	40,809	.....	54,048	.....	301,003
Railway operating expenses	399,705,707	312,288,197	172,078,264	139,155,079	69,706,600	52,699,093	157,920,843	120,434,025
Net revenue from railway operations	298,086,439	176,690,704	106,308,742	70,888,496	60,174,301	35,474,439	131,603,396	70,327,769
Railway tax accruals	127,258,597	61,147,175	44,094,852	23,717,352	32,691,484	16,701,858	50,472,261	20,727,965
Railway operating income	170,827,842	115,543,529	62,213,890	47,171,144	27,482,817	18,772,581	81,131,135	49,599,804
Equipment rents—Dr. balance	12,862,641	8,306,796	5,640,681	3,860,843	553,998	*d*485,682	6,667,962	4,931,635
Joint facility rent—Dr. balance	3,333,484	2,877,897	1,805,640	1,588,711	313,454	295,195	1,214,390	993,991
Net railway operating income	154,631,717	104,358,836	54,767,569	41,721,590	26,615,365	18,963,068	73,248,783	43,674,178
Ratio of expenses to revenues (per cent)	57.3	63.9	61.8	66.3	53.7	59.8	54.5	63.1
Depreciation included in operating expenses	22,888,748	18,259,084	11,223,115	8,028,289	3,941,451	3,613,231	7,724,182	6,617,564
Amortization of defense projects	8,363,930	340,344	2,637,095	128,866	2,174,233	211,478	3,552,602	.....
Pay roll taxes	14,702,950	11,644,645	6,286,190	5,171,359	2,548,787	1,953,440	5,867,973	4,519,846
All other taxes	**112,555,647	49,502,530	37,808,662	18,545,993	30,142,697	14,748,418	44,604,288	16,208,119

FOR NINE MONTHS ENDED WITH SEPTEMBER, 1942 AND 1941

Item								
Miles of road operated at close of month#	231,292	232,260	56,895	57,223	43,813	44,166	130,584	130,871
Revenues:								
Freight	$4,290,450,449	$3,232,982,787	$1,754,791,337	$1,388,741,892	$837,594,981	$629,387,518	$1,698,064,131	$1,214,853,377
Passenger	692,652,052	378,069,203	328,474,883	194,966,498	133,357,275	63,631,460	230,819,894	119,471,245
Mail	78,779,580	77,580,692	28,687,327	28,721,155	14,114,369	13,301,669	35,977,884	35,557,868
Express	64,403,408	43,450,183	23,207,814	17,402,331	10,548,831	8,611,056	30,646,763	17,436,796
All other operating revenues	201,254,000	160,440,166	93,938,984	78,798,984	25,818,834	19,433,867	81,496,182	62,207,315
Railway operating revenues	5,327,539,489	3,892,523,031	2,229,100,345	1,708,630,860	1,021,434,290	734,365,570	2,077,004,854	1,449,526,601
Expenses:								
Maintenance of way and structures	576,360,117	430,628,372	234,567,347	174,992,439	99,460,642	75,271,096	242,332,128	180,364,837
Maintenance of equipment	888,369,183	711,377,695	397,771,012	331,711,212	170,161,047	132,094,537	320,437,124	247,571,946
Traffic	87,222,682	82,309,782	31,655,802	29,449,229	17,173,749	16,023,818	38,393,131	36,836,735
Transportation—Rail line	1,626,063,522	1,255,912,304	741,505,063	580,046,179	276,666,686	210,366,680	607,891,773	465,499,445
Transportation—Water line	21,546	3,082,847	.....	.....	.....	.....	21,546	3,082,847
Miscellaneous operations	52,211,007	33,771,285	20,949,396	14,483,299	8,396,138	4,863,255	22,865,473	14,424,731
General	116,489,339	100,172,136	46,871,864	39,493,298	22,405,967	19,476,733	47,211,508	41,202,105
Transportation for investment—Cr.*	.....	2,739,104	.....	446,837	.....	547,485	.....	1,744,782
Railway operating expenses	3,346,737,396	2,614,515,317	1,473,320,484	1,169,728,819	594,264,229	457,548,634	1,279,152,683	987,237,864
Net revenue from railway operations	1,980,802,093	1,278,007,714	755,779,861	538,902,041	427,170,061	276,816,936	797,852,171	462,288,737
Railway tax accruals	875,865,672	422,375,219	335,397,547	178,417,905	226,229,240	106,025,172	314,238,885	137,932,142
Railway operating income	1,104,936,421	855,632,495	420,382,314	360,484,136	200,940,821	170,791,764	483,613,286	324,356,595
Equipment rents—Dr. balance	103,430,529	74,690,070	50,276,678	35,732,395	5,863,092	1,136,503	47,290,759	37,821,172
Joint facility rent—Dr. balance	28,516,252	24,968,191	15,180,093	13,637,800	3,138,129	2,770,937	10,198,030	8,559,454
Net railway operating income	972,989,640	755,974,234	354,925,543	311,113,941	191,939,600	166,884,324	426,124,497	277,975,969
Ratio of expenses to revenues (per cent)	62.8	67.2	66.1	68.5	58.2	62.3	61.6	68.1
Depreciation included in operating expenses	184,011,343	161,911,919	84,511,805	71,093,661	35,704,639	32,544,993	63,794,899	58,273,265
Amortization of defense projects	57,080,928	395,523	18,640,803	148,504	14,979,107	247,019	23,461,018	.....
Pay roll taxes	125,381,419	97,444,489	54,926,567	43,396,587	22,104,480	16,838,375	48,350,372	37,209,527
All other taxes	†750,484,253	324,930,730	280,470,980	135,021,318	204,124,760	89,186,797	265,888,513	100,722,615

d Decrease, deficit, or other reverse items.

Represents an average of the mileage reported at the close of each month within the period.

* General account VIII. Transportation for Investment—Cr. canceled effective January 1, 1942.

** Includes Federal income tax, surtax and excess profits tax amounting to $88,653,560.

† Includes Federal income tax, surtax and excess profits tax amounting to $551,771,456.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.